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ABSTRACT

Economic and social policies are at the core of the job development process in the German Democratic Republic. New jobs must be available before the process of transfer of labor is actually initiated by further education and training of the work force. The acceleration of the rate of technological innovation has caused a demand for job change within the work force. The reasons for technologically conditioned job changes result primarily from a number of effects on internal production processes. Principles that underlie job change are full employment, employment conforming to qualifications, and personality promoting. Vocational and further education are appropriate responses to change in job requirements. Special attention must be given to the content, organization, and methods of adult vocational education in typical cases of job change. (Almost three-fourths of this report is devoted to suggestions, models, and examples of adult vocational programs that focus on structural changes in the territory and national economy, in-plant rationalization and product development, job change for medical reasons, and reintegration of mothers into the work force.) (YLB)

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ORGANIZATION, CONTENTS AND METHODS OF ADULT VOCATIONAL EDUCATION IN RELATION TO JOB CHANGES AND THE ACQUISTITION OF NEW SKILLS IN THE GDR

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Organization, Contents and Methods of Adult Vocational Education in Relation to Job Changes and the Acquisition of New Skills in the GDR

A Study

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1. The causes for a change in vocational activity in the course of implementation of the economic and social policies of the German Democratic Republic

1.1. Economic and social policies as the core of the social strategy of the GDR

The GDR is a socialist country with developed industry and agriculture. Its territory covers an area of 108,333 square kilometres. The resident population totals 16,624,400 inhabitants (middle of 1986), with an average density of 154 people per km^2 (1986).
The GDR national economy produced the following national income (prices, basis of 1985)/1/

	Million marks	(increase)	Development (1950 = 100) Industry Craft	Construction industry	Agriculture Forestry
1950	30,352	(100)	100	100	100
1960	79,379	(262)	278	272	134
1970	121,563	(401)	466	492	148
1980	193,644	(638)	789	707	165
1986	252,210	(831)	1 063	939	196

In 1986 the GDR had a working population of 8.9 million people (including apprentices), with 7.9 million of them being workers and employees (including apprentices) and 800,000 members of production cooperatives. 91% of all women and girls at working age practise a vocation./2/
The social strategy of the GDR proclaimed at the VIII. Party Congress of the SED in 1971 and since then continuously pursued is based on the unity of economic and social policies.
Due to a consistent approach to a comprehensive intensification of social production, notably by achieving a higher economic efficiency in science and technology, it was possible in the last few years to reach high economic growth rates even under complicated foreign economic conditions.
From 1981 to 1985 the GDR secured a national income of 1,087,000 million marks, with the annual growth rates increasing. Since 1970 a national income of 2.7 trillion marks has been produced. More than 90 percent of the increase in national income has been attributable to an increase in labour productivity.
The planned targets in raising the material and cultural living standard of

the population, with the program of housing construction at its heart, have been fulfilled. In the past 20 years some 3.5 million dwelling units were newly built or modernized. The awareness gained by citizens that economic performances serve to raise the living standard and enhance social security is reflected in initiatives, creativity and diligence.

The analysis conducted at the XI. Party Congress of the SED on the results achieved came to the conclusion that the German Democratic Republic has the material and intellectual potentials at its disposal in order to continuously accelerate and uphold the pace of economic growth even over a long period.

"It is the substance of the new stage of implementing the economic strategy of the SED to orientate all measures taken towards mastering the scientific-technical revolution, securing economic growth for decades and making the cycle of the extensively extended reproduction as efficiently as possible over all its stages." /3/

Great aims have been set for economic development in the years 1986 to 1990:

The produced national income is to be increased to 124–126%. Labour productivity of workers and employees in industry is to be raised to 149–151% on the basis of net production.

In agriculture the overall yield of crop production is to be increased to 50–52 quintals per hectare of arable land in 1990.

The program of housing construction is to be continued by building and modernizing 1,064,000 flats, thus solving housing as a social problem. /4/

Natural resources in the form of minerals are limited to a few raw materials, mainly lignite and potassium. A considerable and growing amount of expenses is required for their extraction and processing, including substantive funds for the protection of the environment.

This aims at utilizing all elements of the production process to the best possible extent and securing the most rational organization of the working process which is geared to an increase in efficiency and optimization of loads.

This process that unfolds itself within the dimensions of the national economy is from the very onset predicated on the need of winning labour in appreciable number for new jobs.

The principal approach to a change of job (= job change) in terms of a general characterization is that a new vacant job is available, or at least perspectively safely available before the process of transfer is actually initiated with all the implicit measures of further education and training.

Thus it is safeguarded that social security of the working people is always maintained.

The combines which are made up of several nationally-owned enterprises and constitute the economic and organizational unit attend to this process of transfer and carry it out as high-efficiency independent economic entities.
"The production process of the combines is organized in a way that it is principally started with raw materials, leading the to higher levels of finish. The required labour force should be recruited by means of a rationalization of their own production processes in the spirit of the so-called Schwedt Initiative...
The combines shall also be entrusted with greater responsibility for training the junior staff, especially skilled workers and for raising further education."/5/

1.2. Causes for job change in the national economy

By and large, under the conditions of the intensively extended reproduction it is to be expected that growing demands will be made on the flexibility of production, on the mobility and disposability of manpower as the major working faculty.
Within certain limits it is quite possible to identify those fields and vocations where a large-scale job change can be expected. In the following those job changes should be discussed which require an additional qualification. In these cases adult vocational education is clearly in a position to provide for the educational implications in advance and to prepare for the educational measures both organizationally and in terms of content.
In the field of the manufacture of material goods and the provision of services the idea, generally speaking, is to increase production of certain commodities or services, or to make changes in the range of products or in certain user characteristics, with a change in requirements being prompted, undoubtedly, by possible modifications in the technological process.
Within the next five years the national economy of the GDR will be characterized by developments which are expected to exert influences on the use of manpower.
Products of *electrical engineering/electronics* show both a high absolute growth rate (up to 149–151%) and an above-average degree of innovation (ab. 34%) per year. Thus it will be necessary to creat new jobs in relation to these high growth rates and changes in production.
Since a major share of the assembly operations will have to be replaced by automatic production plants, new jobs will be needed not only for assembly workers but primarily for skilled workers for the manufacture of equipment for rationalization purposes.

Developments in this field are focussed on the manufacture of industrial measuring and controlling equipment (an increase of 181–183%) and instrument and software complexes of electronic communication engineering. The production spectrum contains, among other things, microprocessor circuits, including those to satisfy special wishes of customers, optoelectronic components for light-guide communication engineering and higher-capacity memories.

Highly qualified specialists of different fields and competence are needed for the merger of such fields as microelectronics, robotics, computer technology and informatics in the interest of the development of automation engineering.

(Computer production in 1986–1990: 160,000–170,000.)

Mechanical engineering as an industry with great tradition will experience a remarkable qualitative and quantitative development.

From 1986 to 1990 its volume will rise to 130–132%, with some 40 to 50% of its production being supplied as complex machine systems.

With an increase to 148 to 150% the growth rates for machine tool engineering will be above average of the entire engineering sector. The portion of machine tools equipped with microelectronic systems will rise to 80%.

Highly efficient equipment shall be provided for building up bioengineering systems.

The product innovation rate of the supply industry shall amount to 30 to 40%. An above-average development is planned for the in-house manufacture of equipment for rationalization purposes which is to be expanded as a decisive basis for modernization and automation.

Despite considerable savings due to optimization of energy-intensive processes (rate of saving: from 1985:1990: some 80 million tons of the equivalent of lignite) it is needed to ensure a growth of capacity of some 80 million tons. The refinement of raw lignite as energy carrier aims at a rational consumption, reduction in the degradation of the environment, substitution for imported energy and reduction in transport expenditure.

The chemical industry and metallurgy shall also be prepared for a high degree of finish for their raw materials.

Consumer-goods production is to be increased to 130–132% between 1985–1990, and 30–40% of its products shall be renewed every year.

Construction is to increase its output to 116–118%. This guarantees the development required for unfolding the material-technical basis of the national economy and the implementation of the generous large-scale housing program consisting of building, reconstruction, modernization and maintenance of flats.

In agriculture, foodstuffs and food-processing as well as in transport, post

and telecommunication it is required to solve branch-specific tasks which will fully claim the labour force employed in these branches. Release effects beyond the branch cannot be expected.

The development of production over the next five years shows that a considerable number of skilled workers will have to be taken out from the ongoing process of work with a view to transferring labour to the newly created jobs and to mastering the new tasks set by the new technology. The main part of a change of vocational activities has to be carried through inside the combines themselves.

The following trends of technological development will be of great importance in terms of the possibilities of recruiting labour for new tasks:

- Improvement of technological processing stages to reach a high-quality processing of products or raw materials;
- Automation of technological processes and thus integration of processes of production preparation as well as auxiliary processes into the main production process;
- Creation of flexible automation solutions in line with the application of microcomputers;
- Integration of information engineering by creating microcomputer hierarchies as well as application of decentralized solutions of microcomputer technology in administration, trade, monetary processes, post and telecommunication etc.;
- Introduction of new technological principles. Microelectronics and microcomputer technology have proved to be the basic fields for the development of a variety of economically important technologies.

Their development and application, in particular, is intended to give rise to a considerable increase in the innovation rate of technological processes at large.

The acceleration of the rate of technological innovation requires flexible economic units and production strategies that involve a high mobility of the labour force. Under these conditions any job change is considered an objectively necessary and, at the same time, indispensable requirement for technological innovation.

The reasons and the nature of differentiation in technologically conditioned job changes result primarily from the following effects on internal reproduction processes.

1.2.1. Technologically conditioned processes of growth

A process of growth which shall be essential to the national economy is to extend the enterprise production technology to additional technological processing stages, especially with the aim of reaching a higher rate of finish

for the products of the enterprise, or making a better use of the resources and materials. Very often these are enterprise extension projects with a demand for labour between several hundreds or even thousands. The manpower supply required is secured in these cases by recruiting labour in the enterprise itself or from other enterprises. Here the enterprise rationalization projects are to be geared to this approach.
Such extension schemes involving adequate rationalization strategies to meet manpower requirements have developed into an integral part of the enterprise reproduction strategies. In conjunction with such extension schemes some 2% of the labour force in industry changes their jobs annually.
Growth processes of a similar scale, but with other causes and consequences for a job change are to be found in the field of basic technologies (microelectronics, microcomputer technology). The need of the national economy for such technology requires above-average growth rates in production. The extension of production capacities will be achieved when enterprises with conventional electronic production range convert their production into the manufacture of microelectronic and computer technology systems. This means that the manpower potential of whole fields of production will change to a new type of production. A job change may happen on-the-spot but often with serious consequences relating to the acquisition of the required qualification, involving even a change of vocation.

1.2.2. Technologically-dependent processes of rationalization

Rationalization processes are–as was mentioned above–often connected with technologically dependent growth processes but are a specific cause for job changes, not to mention the rationalization for a systematic release of manpower. Technological rationalization allows to save manpower in industry to the amount of tens of thousands of workers per year. Only in a few cases there will be an absolute release of manpower that can afterwards be employed in other sectors of the enterprise or outside the works. In most cases released workers are re-employed in the sphere of production in the course of differentiated growth processes, with job changes not necessarily occurring in any case and it so, in a different way.
Technological rationalization is primarily oriented towards the

- Creation of automated production complexes with lower operating and supervising expenditure;
- Increase in the automation rate in assembling processes and thus reduction in the share of manual assambly tasks;
- Automation of data processing in offices as well as counter duties
- Creation of diagnosis systems for maintenance.

1.2.3. Intensified manufacture of rationalization equipment

The enterprise manufacture of tailormade equipment for rationalization purposes has gained increasing importance for the development of industrial production technologies. Here the industrial combines have undertaken the design and construction of equipment for rationalization, such as production interlinking systems for flexible automation solutions, special-type machinery, adaptive solutions for the use of microcomputer-assisted control systems etc which are considered to be efficient enterprise processes in the development of enterprise production technologies.

The development of enterprise-prompted equipment for rationalization is primarily designed to close the technological gap which has been existing between the manufacture of relatively universally applicable instruments for production for the solution of large batches (machine tools, processing machines, industrial robots, computer controls, feeding and discharge devices), on the one hand, and the growing isolation of several enterprise production technologies, on the other hand, which is caused by the increasing concentration and specialization of production.

The establishment of departments or works for the manufacture of equipment for rationalization purposes which began in 1980 has developed into a growth branch of industry which, in the long run, will have to be systematically supplied with labour.

It is required to demand a high level of qualification from those workers who are employed in the construction of equipment for rationalization purposes to enable them to fulfil their tasks in assembly and operation. The character of production, the construction of mainly individual technological solutions on a high technical level does not permit a pronounced division of labour for coping with the tasks of processing and assembly, as this may be the case in serial production. This applies both to the division of labour between skilled workers and to engeneering personnel and skilled workers.

All this leads to relatively complex machining and assembling tasks for the individual skilled workers (mechanical machining tasks, assembly, testing and maintenance operation for pneumatic, mechanical, hydraulic, electric and electronic media) which require a wide range of vocational qualification and specialized qualification elements as well.

Any job change within the branch of manufacture of equipment for rationalization purposes will only be mastered successfully by those skilled workers who have acquired a high level of vocational specialization and who are prepared to continue their studies to achieve the required qualification.

The enterprises have the task to recruit skilled workers from such vocations that have a certain affinity to the required profile of tasks, with the existing vocation requiring a further completion by way of further education.
The recruitment of labour and their supply to the sectors for the manufacture of rationalization equipment appear to be typical signs of a job change that is reflected in the extremely high level of qualification of skilled workers seen as the foremost requirement for a successful re-instatement.

1.2.4. Personality-dependent reasons for a job change

The comprehensive safeguarding and allsided development of social working faculties is an indispensable economic requirement and, at the same time, a first-rate social commitment towards a socialist society in an attempt to elevate manpower to a permanent source of increase in performance. By way of a persistent complementation of the material-technical basis of production this requirement is met by the scientific-technical progress inasmuch as this progress is apt to eliminate the hardship of work, to unfold a progressive content of work and to provide optimal working conditions in terms of factory hygiene, with a reduction in the obstacles to performance and personality development in relation to work.
However, in contradiction to above general statements relating to the generalized figure of social worker, or to the social reproduction process at large, working conditions and demands on work with extreme unilateral physical stress still exist at present, though to a different degree, in such industries, as mining, metallurgy and the metal-working industries, which lead to premature loss or drain on the physical capabilities of the individual worker. In resorting to a continuous research done in these fields by industrial scientists, hygiene experts, industrial medical experts and sociologists attempts have been made on the basis of interdisciplinary ergonometric studies to bring about a solution to this problem with the aim of consistently reducing the premature wear on the physical working faculties.
However, it will still be necessary, on a limited scale, to secure precautionary changes in jobs and vocations in order to avoid suffering from impairments to health or irreparable health damage.
Yet, it has to be stated that the scientific and technical progress will penetrate into the processes of production and work in a different manner and that old and new technologies will continue to coexist side-by-side for a long term.
On the other hand, the old technology is also subject to partial reproduction due to the new technique. To this belongs, for instance, work with optical

auxiliaries required for the manufacture of microelectronic products, work with visual displays which involve a great amount of one-sided physical and psychic stress, so that at present on the current level of knowledge any job-related impairments of health cannot be safely excluded.
In connection with comprehensive social benefits granted to young mothers it has become apparent that in the last few years these young mothers have shown a particularly high rate of job change. Therefore economically and socially satisfactory solutions have become an urgent social requirement especially in the light of a share of 5% of female working faculties.

1.3. Principles underlying job change

1.3.1. Full employment for all working people

The kind of approach needed to formulate educational consequences, to define the aims of education and their contents and to operate further education is accounted for by the economic and social goals and conditions underlying the shaping of the socialist society. Above all the full guarantee of the right to work is a fundamental asset in case of a required job change.
The reinstatement of skilled workers in workplaces with skilled worker level is both a matter of economic concern, i.e. to make full use of the social working faculty, and an expression of the worker's personal interest in a meaningful and relevant job.
Measures of vocational education are to support this concern. The Labour Code reads as follows:
"The required training and further education of working people in connection with rationalization schemes or changes in structure shall be planned and carried out in a way that the working people shall possess the required qualification when taking over a new or modified job." (§ 146[1])
"(2) The enterprise has to provide the conditions required, above all the material, financial and personnel-related prerequisites for a successful implementation of training and further education." (§ 146[2])/6/

1.3.2. Qualification-conformable employment

The title to work in line with the acquired qualification is one part of the right to work. Under the conditions of the stormy development of productive forces, with the change of job asserting itself as an objective economic law in industry, it is now that job change is coupled with the right to education

The acquisition of a skilled worker vocation is regulated accordingly in the event of job change that is socially necessary:
"If skilled workers are required for social reasons to change their acquired vocation it shall be guaranteed that they will receive a certificate of the new vocation provided that they accomplish the skilled-worker performances at the new workplace in the required quality and quantity after being enabled by further education.
Further education and training shall be prepared and carried out on the basis of the provisions of §§ 145 ff of the Labour Code of the German Democratic Republic as amended of June 16, 1977 (GBL I, No. 18, p. 185).
This refers especially to the conclusion of qualification contracts, the reimbursement of fees and costs and the indispensable paid leave for the participation in further education.
The enterprises have to cooperate with the works-owned trade union managements in the preparation, implementation and the control of further education. They have to guarantee that the planned measures are explained in detail to the skilled workers. The skilled workers have to be informed about the resulting changes in qualification requirements as well as about the measures of further education that will be necessary...
The further education of skilled workers shall be carried out within a period of up to six months." /7/

1.3.3. Personality-promoting, load-optimizing workplace formation due to scientific work organization

One of the decisive ways to coordinate social and personal interests in case of job change is the personality promoting, load-optimizing formation of newly created workplaces. These two objectives are closely related but not identical. A personality-promoting content of work offers the worker the possibilities for creative work at his workplace as well as for organizing individual activities etc.
The use of microelectronics and automation helps to considerably expand the possibilities for an elimination or reduction of heavy work, e.g. by the application of industrial robots in processes of work with heavy health hazards. The technical possibilities are, however, by far not exhausted with regard to this problem. Through the introduction of new technical systems and processes new kinds of loads might occur, the negative effects of which are to be eliminated from the outset or reduced according to the level of technology.
(See section 3)

2. Educational measures required in relation to job change

2.1. Vocational education measures as a contribution to personality development and increase in efficiency

The technological basis of modern industry is a revolutionary one. It continuously changes the functions of workers and the social combinations of the process of work. This general social law of production found by Marx includes the change of work, the movement of function and the requirement for an allsided mobility of the worker./8/

To meet this requirement in a highly rational way it is required to create a proper educational and qualification strategy. Under the social conditions of the GDR a wide range of vocations (about 300 skilled-worker vocations) is available to correspond to the dynamism of scientific-technical progress and the speedy change of requirements related to this. These vocations are characterized by the latest level of knowledge and a qualification of high stability. The educational groundwork required to meet the growing and changing requirements is provided by measures of further education.

Despite the required job change it cannot be simply concluded that the skilled worker has to change his job several times during his life. Rather, the vocations are designed in a way that the ability to practise a vocation can be permanently reproduced. According to the socialist vocational concept of the GDR the vocation is understood as as complex of knowledge, abilities, skills, habits, views and behaviour, the precondition for a successful exercise of complicated work in an certain field of work. In this sense the vocation is a relevant basis for the development of personality in the wake of the collective creative, material and intellectual acquisition of nature.

Such initial positions result in conclusions on the overall program and on each individual educational measure. They can not be limited to the ability to exercise certain working operations, but are directed toward the complex development of personality qualities that allow to practise the vocation.

Practical development work has shown in most cases that changes in the process of work relate to various fields of knowledge and spheres of skills.

When introducing new technologies or products and in case of rationalization measures it is necessary to deal not only with problems of scientific work organization, materials science, quality assurance but also with questions of health protection and labour safety; moreover, the acquisition of new skills for the operation or maintenance of new machines and systems is often related to the training of known courses of action, as for example in case of anti-accident training.

Therefore vocational development can only be implemented as a contribution to the development of the overall personality since each individual measure is integrated in the process of permanent education; it is based on educational groundwork and experience and is the starting point for further education.
Such a vocational development program leads to a demarcation of views and practices, a conception with underlying educational measures.

2.2. Further education as the main form of response to change in job requirements

The vocational guideline developed in the GDR views the vocation as the most comprehensive basis for the development of the personality in the process of work and for social productivity under the conditions of socialist production relations and advanced division of labour. Therefore vocational education is formed as a substantive process of vocational and further education accompanying the practising of a vocation. In *vocational training* apprentices acquire the ability to achieve skilled-workers performances in their vocation and to adapt themselves to growing and changing requirements of work.
Vocational further education is designed to deepen, complete, extend and update the knowledge acquired during vocational education in accordance with the requirements. The curricula of the wide-profiled vocations contain provisions on the acquisition of specialized knowledge to be taught in additional lines of specialization during courses operated for further education.
It has also become increasing practice to acquire specializations taken from other vocations with a view to qualifying oneself to meet more complex requirements in the process of work.
The advanced *long-term* planning of potential further-education contents serves as one way to establish a link between vocational education and vocational further education in an attempt to determine vocational profiles and contents of vocational education by competent honorary professional commissions that operate within the framework of syllabus work, e.g. by the provision of specializing institutions in the vocation[1] or by granting operating licences. The second way of establishing a link between the two kinds of education is to identify educational requirements and to determine the contents of further education requiring a short-term solution with the

1 The GDR knows 2 types of skilled-worker vocations: vocations with one specialization and those with several specializations.

advent of the scientific-technical development. Such demands can emerge over a great breadth, or can apply only to a few jobs. For this reason there are central, branch or enterprise programs which cover the various contents.
The year-long experiences gained in putting through the socialist vocational concepts that are characterized by a great mobility of skilled workers have shown that the overwhelming share of the demands on education can be fulfilled by further education. It is only in a few cases that the acquisition of an additional vocation is indispensable. The available level of general education, polytechnical education and vocational qualification of skilled workers permits in these cases to embark on very rational ways for the acquisition of a new vocation via *further education*/9/. But the period of six months shall not be exceeded for the acquisition. Thus the qualification, experiences and the readiness of worker are recognized.

2.3. Complex vocational requirements and prerequisites taken into consideration by differentiated formulations of aims, contents, organization and methods in training and further education

The variety of job changes leads to a variety of educational solutions. Therefore a considerable importance is to be attached to the differentiated *formulation of educational measures* in terms of economically and socially satisfactory solutions to job changes. At the same time the differentiations underlying educational solutions are primarily determined by the economic and social objectives to job changes in the enterprise. Educational solutions to a successfully accomplished job change with reference to the group of skilled workers are no principally novel solutions.
Educational solutions are mainly characterized by the fact that the differentiated possibilities are exhausted or taken advantage of in adult vocational education. Symptomatic of a successful job change is not the existence of new educational concepts but rather the full utilization of the capacities of the available one. From this point of view it appears to be indispensable to show both the requirements and the possibilities for differentiations in educational solutions to job changes.
The educational differentiation has to be inferred from the character of job change.
In this respect
- the direction of job change and
- the change in requirements for skilled workers resulting from job change

are of special importance.

Educational differentiations derived from the direction of job change

Two types of socially necessary job changes can be distinguished:
The long-term prepared job change: it proceeds from one or several sources of release towards long-term absorbable vocational employments with a firmly defined spectrum of vocational qualifications.
The short-term job change prompted by current needs: it proceeds on the basis of presently determined, long-term non-recurring release and reinstatement requirements.
They lead to a principal differentiation in the outline of educational programs as to contents.
Long-term stable training and further-education projects:
They are characterized by a long-term, i.e. inter-individually formulated concept, referring especially to the initial qualification required for the educational measure, the structure of educational aims and to the formulation of the educational measure as to content and methodology.
That is why these educational projects have a marked curriculum character.
Short-term valid training and further-education projects that are tailor-made to a definite circle of participants have also a more pronounced individually oriented concept.
These are, by their contents, different types of educational projects which are simultaneously typical representatives of a different organization in educational planning.
Long-term stable training and education projects provide the possibility for a centralized educational planning. Short-term valid training and further education projects, in securing their educational efficacy, require a greater degree of decentralization, i.e. a breakdown of educational planning into the relevent technical and educational personnel capacities in the enterprise.
In-plant manpower movements, from a variety of aspects, prompt the development of educational activities to proceed in both directions in the enterprise.
Here the following considerations are decisive:
Centralized in-plant educational planning
Processes of centralization are observable in educational planning both as in-plant and outside-plant processes.
In case of long-term planned in-plant job changes the centralized in-plant educational planning is done by the enterprise educational institution. Given this job change a process of centralization of educational planning is mostly coupled with this move in that educational planning is shifted from

the responsibility of the relevant enterprise structures to the competence of the in-plant educational institution, with spontaneous and undecided reactions to job change being transferred to long-term planned educational solutions. A typical example of centralized in-plant educational planning is that educational solutions are worked out for the planned re-employment of women in woman-conformable jobs of the enterprise after their return from one-year maternity leave.

An out-plant centralized educational planning arises as a need for a regular job change outside the enterprise. These are mostly job changes typical of the sectors of industry and made with a high social risk, if unguided, by specific employment groups especially if their vocational re-employment is limited.

The centralized educational planning enhances the social relevance of the educational solution; it combines a number of individually substantiated educational requirements to a socially significant one, thus creating the requirements for the adequate social expenditures to explain the solution to the educational problem (e.g. the creation of absorbable vocational fields of occupation).

Decentralized in-plant educational planning

Especially in cases of greater labour movement, the diversity of educational requirements brings on an orientation towards educational solutions to be prepared and put into reality in the various enterprise units. In this connection the following conditions are taken into account for adult vocational education:

- The low personnel capacities of adult vocational education in enterprises (there is one full-time educationalist per 1,000 employees);
- The specifics per content of the different educational requirements, necessitating the close link of the preparation for the educational measure to the expertise of a specialist on the competent in-plant structures where the educational requirement has come up.

The educational solutions of decentralized educational planning are orientated towards well-manageable educational aims and processes. The economy of education is in the foreground. The educational knowhow is accumulated by co-operation between enterprise experts and the in-plant educational institutions, realizing however that educationally untrained experts also look after the educational tasks as teachers/lecturers.

The school-type nature of educational solutions is only emphasized to the extent that a rational acquisition of educational content is guaranteed. On the other hand, the didactic potentials of learning in the wake of activities are shifted into the foreground of educational planning together with de-

monstrations on the basis of objects. Here the emphasis on individualization in the educational process becomes apparent.
It is already manifest that the decentralization of educational planning does not lead to a disorganization of in-plant educational work, but rather to a shaping of another essential form of institutionalized vocational education in the enterprise. It evolves as an objective requirement of in-plant educational work from the concrete conditions of the enterprise reproduction process during labour movements, in particular, and modern intensification processes, in general.

Educational differentiations resulting from the difference in qualification of job change

The changes in requirements during job change reveal the following essential directions of development:
Shift in the content of requirements
The qualification required is for the worker a new profile of qualification, with a definite portion of available qualification being furthermore utilizable.
Extension of the structure of requirements
In addition to the already acquired qualification new individual elements of qualification are demanded which are on about the same level of requirements. The profile of already acquired qualification remains intact and is expanded.
Increase in level of requirements
A general or partial increase in the level of available vocational qualification beyond the stage of qualification reached will become indispensable. This level is demanded for the exercise of complicated works, i.e. complex tasks or definite, more complicated works.
The development of requirements coupled with job change and described succintly in the categories of shift in content, expansion of structure, increase in level of requirements reveals mainly the changes in profile of required or acquired qualification, or the required or acquired vocation. This makes it possible to arrive in particular at statements an how far the job change will lead beyond the profile of the acquired qualification, or the acquired vocation.
At the same time the vocation of a skilled worker in its outline of profile is elevated to a relevant category for educational differentiations.
The uniform concept as per content applicable to all skilled workers vocations provides the basis for a purposive and accurate acquisition and comparability of required and available vocational qualification in case of job change.

For a general outline of the educational differentiations in the aims and contents of adult vocational education it is that the elements of the skilled-worker vocation are relevant above all for the basic profile:
General level due to graduation from the general polytechnical secondary school as the foremost requirement for learning a vocation.

Vocation with basic vocational education

General (vocation-comprehensive) basic education — Vocational basic education

Special education

Vocational specialization(s) coupled with
- basic vocational specialization
- advanced vocational specialization

Potential of work and job experience

In connection with job changes and predicated on this structure the following basic differentiations are obtained with the measures of adult vocational education:

In using this structure the following basic differentiations are obtained for the measures of adult vocational education in relation to job change

Structure of educational measures in adult vocational education subdivided according to aspects of vocational content	Acquisition of workplace related education/ on-the-spot experience	Acquisition of additional vocational special education/incl. certificates of competence	Acquisition of further vocational specialization
Changes in requirements resulting from job change			
Shift in content of requirements			
Requirement shift within acquired vocation	x	x	x
Requirement shift in part into the profile of another vocation	x		
Requirement shift out of the acquired vocation			
Extension within the structure of requirements			
Requirement extensions within the acquired vocational specialization of vocation	x	x	
Requirement extension in the acquired vocation and into another specialization of vocation	x	x	x
Requirement extension by using the contents of another vocation	x	x	
Rise in level of requirements			
Requirement rise partially or wholly into the next stage of qualification			

Structure of educational measures	Acquisition of vocational basic education	Acquisition of basic education or special education from other vocations	Acquisition of a different vocation within the stage of qualification	Acquisition of a vocation in the next higher stage of qualification	Acquisition of general fundamental education/ general polytechnical education
Shift in contents of requirement					
Requirement shift within the acquired vocation	x				
Requirement shift in part into the profile of another vocation		x			
Requirement shift from out of the acquired vocation			x		
Extension within the structure of requirements					
Requirement extensions within the acquired vocational specialization of vocation					

Structure of educational measures	Acquisition of vocational basic education	Acquisition of basic education or special education from other vocations	Acquisition of a different vocation within the stage of qualification	Acquisition of a vocation in the next higher stage of qualification	Acquisition of general fundamental education/ general polytechnical education
Requirement extension within the acquired vocation and into another specialization of vocation					
Requirement extensions by using the contents of another vocation		x			
Rise in level of requirements					
Requirement rise partially or wholly into the next stage of qualification				x	

Educational solutions in case of job change

	Further education within the process of work		Self-study including consultations	Basic training and education courses		
	supply procedure	Assignment to reference plants		in enterprise	in social educational organizations	with the manufacturer of the new technology
Acquisition of jobrelated education/on-the-spot experience	x	x	x			
Acquisition of additional vocational specializations		x				
Acquisition of another line of specialization	x	x				
Acquisition of job-specific basic education				x	x	x
Acquisition of basic education or special education from other vocations	x	x		x	x	x
Acquisition of a different vocation within the stage of qualification						
Acquisition of a vocation at the next higher level of qualification						
Acquisition of a general basic vocational education/polytechnical general education				x	x	x

	Courses of special education in the enterprise	in social educational organization	with the manufacturer of new technology	First acquisition of a skilled-worker vocation	Retraining in the interest of a different skilled vocation	Training as foreman
Acquisition of job-related education/on-the-spot experience	x					
Acquisition of additional vocational special education	x		x			
Acquisition of a another line of specialization	x	x				
Acquisition of vocation-specific basic education						
Acquisition of basic education or special education from other vocations	x	x	x			
Acquisition of a different vocation within the stage of qualification					x	
Acquisition of a vocation at the next higher level of qualification				x		x
Acquisition of general basic education/polytechnical general education						

The system of educational measures underlying adult vocational education has proved sufficiently effective in order to cover the social demands for education in quantity and quality through manpower movements.

2.4. Adult-related formation of educational measures in consideration of the social position of trainees

The conditions for the acquisition of knowledge among adults are different from those for children and youth.
This is mainly due to their social position and to their age dependent psychic and emotional maturity. The social position of the adult learner is characterized by the fact that learning or acquisition of knowledge within adult education is not their determining activity.
Their major activity is their job, they are active in social functions and they mostly have family commitments of a certain kind.
The ten-grade general polytechnical secondary school, the vocational education and further education have exerted, though to a different extent, a strong influence on the development of personality, shaping learning and behaviour characteristically.
The characteristic aspects of their learning activities resulting from the external living conditions and the related internal psychic conditions provide an essential requirement for effective schooling and instructions in adult vocational education.
Since the major activity of working people is actually the work, they learn virtually without any disruption of their vocational activities in an active exchange with work.
Learning workers have a high, yet differentiated level of qualification, education and development.
Graduations from schools, training and further qualification have been acquired at different times. The level of education and qualification of trainees is continued to be shaped invariably by the differently developed experience gained in life and work. As a result a pattern of high demands is created and made on the content of instructions, with advance performances differing widely.
The different level of qualification of trainees in a course have to be accepted as a normal case. Thus a differentiation in the approach to instructions is urgently needed. And this differentiation is reached by addressing all trainees, both those with high performances and those with low performances.

The insight gained in the working process into larger sections of the enterprise and social reproduction process promotes the willingness to display great political activities, to take part in the management, planning and control of production and increases the readiness for mobility to the socially required extent.
Trainees can acquire additional socially valuable motivations, discipline and comprehension for instructions from political work, especially from the Party of the working class, the fraternal parties, the Confederation of Free Trade Unions, the FDJ and from other social organizations.
The learning of adult working people is continually influenced by age-dependent psychic and physical processes of ripening.
This is, among other things, evidenced by the need for independent acquisition of knowledge created by the aspirations for a true-to-life and occupation-accompanying learning.
Unlike children and youth, adults do not want and need not require any speedy change in the teaching methods. Even over longer periods they retain the survey on the subject, they can absorb and break down the information of a larger scope and can identify the essential aspects by the way they present themselves. With an increase in their ability for generalization and criticism in the advanced age of adults, the mechanical learning performances of adults are lower and the rate of certain intellectual operations can decelerate.
It can be safely assumed that a new quality in relations between trainees and teachers has emerged.
When studying the ontogenesis of an adult worker, it becomes apparent that a new quality has arisen in the relationship with the teacher. It is marked by a different approach of trainees resulting mainly from their social position.
It is that trainees and teachers have acquired primarily the same range of experience, however with a different theoretical approach. Thus trainee is capable of assessing not only his own person, but also the work of the teacher. The learning worker is seeking a partner in the teacher who accepts and recognizes him, who helps him to master individual and collective process of learning and teaching. The teacher is primus inter pares.
In addition, the need for active and independent participation grows out of the social position of the working people.
Thus the decisive foundation for the need for active and independent participation in the teaching and learning process is provided by the social position of the worker having already at his disposal comprehensive experience in life and work and standing out by his social commitments. It has to be emphasized that activity with advancing age is characterized by con-

sciousness, creative initiative and responsibility and determined by socially valuable and individually relevant motives.
The need for independent acquisition of knowledge and the capability of doing so is closely related to it.
It grows out of the motivation for life-long vocation-accompanying learning.
In addition, the higher level of self-consciousness developed by the social maturing of the worker leads to the need for self-education and a rational formation of the learning process.
This need is also accentuated by the differentiated learning conditions of the worker emanating from the different working and living conditions. In dependence upon the vocational stress, social activity, family situation and the level of education of each individual person, every trainee will require a different length of time for the acquisition of knowledge. He can best cope with this difference by individual learning. Therefore there is the marked need to be able to determine independently the time for individual learning and to work with prepared teaching and learning aids.
The willingness of adults who are integrated into the process of work for learning is closely coupled with the need for the immediate use of the knowledge acquired in vocational practice. The worker begins to learn with a greater consciousness the more so because he can use his knowledge and skills acquired for the solution of his vocational tasks. He develops an attitude towards learning reflected in specific efforts to deliberately command the subjects and to review and use the knowledge acquired in his vocational practice.
Given further education in connection with job change, motivation for learning is mainly determined by the efforts to retain and improve efficiency in the process of work and one's position in the collective.
In the lessons the teacher should develop such positive personal qualities shaped during work, as awareness, single-mindedness, collectivity and cohesion, discipline and efficiency. Willingness to learn can be considerably encouraged by deliberately incorporating the knowledge and skills available, including experience of work, into the formation of instructions.
Based on the experience gained during work with its manifold social relations propitious points of departure are obtained for the activation of the collective relations to promote learning under the conditions of mutual aid and support, yet also as a subject of competition.
The ability of collective learning acquired by the worker in the process of work is, when used, a decisive help to reach successes in learning during classes.

The aspirations for recognition and self-affirmation of worker are coupled with sensibilities and prestige. The worker is accustomed to finding recognition and thus self-affirmation in return for good results in his work. From this is derived his efforts to find this also during lessons, or at least to acquire it.
The heterogeneous composition of the collective of learners is inclined to confront the learning worker with an unfamiliar social situation. It is here that workers of different qualification and function, different social activity and different age have come together. Initially, this situation on the side of the leaner leads to restraint and shyness as well as to inhibitions in terms of his participation in the process of learning and teaching. Thus a successful and respected worker in his collective, with great experience and the provable use of this experience, will initially feel somewhat out of place behind the "school desk". He might not want to expose himself and to lose his authority to those who might be subordinate to him in the process of work. Thus sensitivity and prestige are an expression of an initial approach to learning of workers; it should not be disregarded.

3. Content, organization and methods of adult vocational education in typical cases of job change

3.1. Educational measures in relation to structural changes in the territory and the national economy

Under the conditions of the socialist intensively extended reproduction and under the aspects of the working faculty the increase in labour productivity, the reduction in workplaces and the recruitment of labour for new tasks have to be considered the sources of growth. Given a concrete case, the redistribution is aimed at creating the personnel requirements for the startup of new high-production plants, the multi-shift utilization of basic funds and for tackling the territorial tasks in the social and cultural fields, for supply and services. The pivotal idea is to adapt consistently the structure of employment, qualification und vocation to the dynamic needs of the national economy. The planned and proportional formation of the social reproduction process is in need labour in a definite number, structure of qualification and level of education. The proportions conformable to the adequate scientific-technical level of development are reached by the processes of distribution and redistribution accompanied by processes of education and qualification in the interest of economic efficiency.

Apart from the above mentioned points of view, some other economic considerations are the following:

- Increase in the share of personnel immediately involved in production and in the technical preparations for production;
- Reduction in administrative personnel;
- Strengthening of non-manufacturing branches and fields.

The management of the manpower movement within the territory is related to all proportions indicated, yet with a different degree.

The territorial interests are specifically affected in those areas where the production of entire factories or even branches cannot be continued, or where production facilities are being set up with a completely new profile and a greater demand for labour because under such conditions the manpower movement would largely go beyond the limits of individual enterprises. An example showing the discontinuation of production in an industry was the cessation of hard-coal extraction in the Zwickau-area due to depletion of deposits. It was thus required to create jobs for several thousand miners who should have the skilled-worker qualification.

Two new works of the construction industry were set up as follow-up enterprises of the hard-coal enterprise "Martin Hoop". Two tasks had to be solved at the same time:

- the training of the miners to enable them for vocations in the construction industry
- the establishment of a new works, the beginning of trial operation and the transition to planned production with full output.

The technical, economic, social and educational measures required for the change of workplace were agreed upon between the "Martin Hoop" hard-coal mine and follow-up enterprises and, on the other side, the workers affected with the active participation of the trade unions.

Training courses were operated for raising general education and as a long-term preparation for the required manpower movement, in addition to an individual consultation with miners on new workplace with the aim of obtaining the school-leaving certificate of the 10-grade general polytechnical secondary school in order to improve on disposability and to provide a basis for the acquisition of new jobs or for further-going educational measures (training as foreman, study for engineers) for those adults still without the graduation certificate of the 10th grade. For a period of eight years training courses were operated by the enterprise academy of the combine. The new vocations open for them were civil engineering workers, construction equipment operators, drivers, skilled concrete workers, carpenters, crane drivers and welders, steel-works fitters, maintenance fitters and equipment operators. The general assumption was confirmed that the former miners

had gained rich experience in their former job which they could successfully use for the training in the new one.
Qualification was acquired by instructions in practice and in theory operated as weekly courses. The training in the practice of several vocations was operated in local enterprises (maintenance work, railway repair works, construction enterprise for heating systems and pipelines, concrete precasting works, concrete-slabs works).
Due to the temporal coincidence of training for the new job and the construction of the new works favourable conditions arose for several workers concerning their training in practice, since it was possible to link their training to the construction of the new works. Newly established civil-engineering teams were charged with preparatory works, whereas the future fitters and maintenance workers were employed side-by-side with experienced erection teams for the erection of equipment and plants. Thus they got acquainted with the nuts-and-bolts of the plant and were within a short time able to carry out maintenance and repair work in a competent manner.
On-the-job training helped to reduce the period of trial operation. Therefore 94 out of 400 operators of the new wall-panel works completed a threeweek training course in an operating enterprise using the same technology.
In connection with the structural change in the enterprise it was possible for former miners to acquire the qualification as a foreman or engineer, in addition to a skilled-worker's certificate.
The discontinuance of hard-coal extraction near Zwickau in the 60s and 70s is considered still today an example of a planned, economically and socially beneficial structural change in the national economy due to the depletion of deposits in the territory.
In most cases attempts are made to reach job change by territorial rationalization in an effort to save workplaces and to gain labour both through the development of key technologies and the multishift utilization of machines and equipment and through the extension of social and cultural performances in the territory, the services and traffic. The competent city council departments (planning commission and labour office) develop proposals for mastering the tasks and prepare orders for works and institutions which lay down at what periods a definite number of workers of certain vocations should be made available for new tasks in the territory. Thus the enterprises concerned are allowed to prepare the release of workers in a long-term process due to rationalization measures.
Great demands on the recruitment of labour in the territory will arise to those places where in the framework of housing construction new settlements are built of partly considerable extent.
A new residential area of 7,000 dwelling units was built in the town of Zwik-

kau. There is a resulting demand for 800 jobs of a definite structure of qualification and vocation. In addition to teachers, physicians, medium-echelon medical personnel there is a demand for janitors and skilled workers of various lines. But the majority of required labour has to be recruited in the territory./10/

The task of enterprises to provide labour for the territory can be coupled with the requirement for the due qualification of workers to comply with the new tasks. The workers who are recruited in the city of Leipzig for municipal construction projects are trained for civil engineering jobs at enterprise academies.

In connection with the agreement on the courses to be attended prearrangements are made on the most propitious time for a job change into the new vocation and enterprise. Labour as tram driver was recruited in Leipzig in the same way.

Between VEB Kombinat Leipziger Verkehrsbetriebe and the VEB Kombinat Technische Gebäudeausrüstungen an agreement was reached on the training of workers whose jobs are to be saved in one of these enterprises still during their affiliation to the previous enterprise in accordance with the new requirements to be met in the future enterprise.

VEB Halbleiterwerk Frankfurt (Oder), a manufacturer of microelectronic components, recruited young skilled workers from related vocations of the industry electronics/electrical engineering as well as young woman workers from the light industry in an attempt to accelerate production growth. The socialist youth organization, the FDJ, within the framework of the FDJ initiative, made this project to its own concern.

Young people from all districts of the GDR are now being won for the work in an enterprise of the key technology. The requirements are created in the town and the district of Frankfurt (Oder) to make these young skilled workers settle there.

The measures of qualification required are carried out within the courses of adult education; here the knowledge and skills already acquired are duly considered. Vocational training courses can be operated for skilled workers in electronics, manufacturing instruments, electrical fitters, maintenance fitters for data-processing and office machines, precision engineering as well as control engineering.

Several general aspects can be generalized for educational measures to be taken in relation to economic and territorial structural changes.

- Educational measures are needed because of change of job and workplace coupled with a change of enterprise. Change is carried out on the basis of long-term complex conceptions of the enterprises involved, comprising all economic relevant aspects.

- The preparation for the long-term conception is put into reality with participation of the workers involved. It is to be ensured that any job change will not bring about disadvantages, but rather improvements of income, better chances for the vocational career, improved working and living conditions, so that the job change and the required qualification appear to be desirable.
- The capacities inherent in the territory are utilized for qualification in theory and practice. Special assistance is provided for small- and medium-size enterprises that do not have any adult educational facilities, such as an enterprise economy, of their own.
- Within the framework of the long-term qualification concept underlying any job change in the territory the training measures for a second skilled job have a great share in qualification.
  With the "Instruction on the use of state curricula..."/11/ a legal basis is provided for workers in order to obtain the skilled-worker certificate in an efficient manner without any cutback in quality, yet with the recognition of the qualification acquired, the experiences and the performances reached. Another stage in the full recognition and utilization of the qualification in obtaining the skilled-workers certificate is provided by the decree of September 17, 1984, on the acquisition of the skilled-workers certificate in case of a socially necessary job change./12/
  Favourable temporal conditions have been created for trainees by the Labour Code and for women by the Decree on the Promotion of Full-Time Employed Working Women to be trained to skilled workers in production./13, 14/.

3.2. Educational measures in relation to in-plant rationalization and product development

The development of in-plant rationalization and product design are apt to prompt the major part of socially required job change and related educational implications for workers. Especially product development from the point of view of a finishing strategy has shown that the specific recruitment of labour by rationalization in favour of a more efficient deployment has, since the beginnung of the 80s, developed into one of the main routes for raising the efficiency of production. This development is pushed forward by the need of recruiting labour under the conditions of largely depleted territorial manpower reservoirs for the extension, rationalization or the full utilization of production capacities. Notably in combines which are bound to develop rapidly and effectively certain lines of scientific-technical progress by resorting to extension and rationalization of production capacities

there is the urgent need to recruit increasingly the labour required from one's own sources.

Manpower requirement to be met by rationalization in selected combines with extension schemes

Combine	Manpower requirements	Period
Petrolchemisches Kombinat PCK, parent enterprise	2,400 workers required for the startup of a foode yeast and aromatic hydrocarbon complex	1978–1982
Strip steel combine, EKO (Eisenhüttenstadt Ost)	2,000 workers for the startup of a converter steel mill	1981–1985
Flatglass combine, parent enterprise	430 workers required for the startup of a float-glass plant	1981–1985

The educational problems and solutions related to this strategy of manpower recruitment exist virtually independently of the scope of extension or rationalization projects.
To portray the educational problem related to such job change examples of enterprise extension or rationalization projects are singled out because the differentiation in educational tasks can be most clearly described together with the solutions found.
The requirements for recruiting labour for new tasks in industry are different in terms of time and scope. At those places where labour has to be transferred to new production capacities, or for the creation of shift work a cutback in labour between 10 to 20% within a collective is often reached.

Labour movement in combines studied

Enterprise	Project	Total number of employed	Planned or performed release and transfers	in %
Enterprise PCK, parent enterprise	Startup of new facilities with 2,400 employed	ab. 8,600	ab. 1,760[1]	20.5
Strip steel combine EKO	Startup of new facilities with 2,000 employed	ab. 9,600	ab. 1,600[1]	16.7
Flatglass combine parent enterprise	Startup of new production facilities with 430 em ployed	ab. 2,500	ab. 250[1]	10.0

1 The additionally required manpower for startup of the new production facilities is saved due to measures of rationalization in the new plants.

Apart from extensions of this order of magnitude there are growth-oriented sectors to be found in almost all enterprises which require labour of different magnitude to be provided invariably by in-plant rationalization measures.

In terms of the national economy considerable savings can be reached. Given the reproduction of the working faculty in industry the recruitment of labour due to rationalization thus reaches two (2) percent per annum of the working faculty, a comparable order of magnitude equal to the annual inflow of labour from vocational education. This strategy of labour recruitment had reached already great economic relevance at the beginnung of the 80s.

Available labour is employed for

- the extension of production in existing structural fields of the enterprise
- the increase in shift-work utilization of highly productive means of production
- the safeguarding of provision of new means of production and

- the construction and extension of a high-efficiency sector for in-plant manufacture of equipment for rationalization.

Job change occurs mostly within the structural fields of enterprise production. In the parent enterprise of PCK Schwedt, e.g., more than two thirds of labour recruited remained within their structural sectors and took over new tasks of reaching a new or higher output. Mainly due to rationalization the other enterprise structural sectors had won

- Operators for production plants, i.e. operatives, supervisors, maintenance personnel who are entrusted with new tasks in existing or extended production sectors and work in several shifts;
- Manufacturers of production instruments and maintenance staff who are entrusted with tasks for the construction of rationalization equipment and industrial robots.

In addition 'hangovers' of production workers of a variety of vocations are specifically employed in production sectors other than above indicated, such as maintenance operative in the PCK works for supervising and servicing operations.

Some 10 percent of workers change over into other enterprises. A high share in this change is attributable to the recruitment of highly qualified workers for safeguarding manpower requirements in new production sectors of other combine enterprises. Thus manpower conceptions for new production facilities suggest that up to 30% of the required manpower should be covered by experienced skilled workers. The idea is to recruit production operatives in central works and to re-employ them again in production.

On the enterprise level the recruitment of production workers is concentrated on those fields from where a possibly great share in required vocations can be recruited. At the same time this leads to a concentration on certain production spheres in enterprise rationalization. Due to the frequent changes in division of labour and organization there are often considerable changes in the requirements for qualification.

In the rationalized production sectors of PCK Schwedt parent works the qualification requirements changed for more than 90% of production workers, leading to consequences for education. On an average it was required to qualify four workers to obtain one worker in the end. If this number is put into relation with the number of job changes it can be concluded that every year some 8 to 10 percent of workers in industry accordingly undergo qualification.

In view of the pursuance of definite and mutually combined strategies of rationalization there are, as a result, substantive changes in the requirements for qualification and, in consequence, in educational concepts.:

Recruitment of production workers by way of scientific organization of work. In this context the following is of importance:

- Combination of equal tasks of work in relation to a change in work organization and a planned increase in qualification (utilization of individual potentials);
- Minimization in shift staffing by a purposive balancing of labour or multiple staffing of qualified workers in the team (utilization of potentials in the workers' collective);
- Transfer of tasks from existing production collectives to other teams and the shifting of required qualification in favour of the additional acceptance of tasks (Utilization of potentials in the working faculty of structural sectors of the enterprise).

Recruitment of production workers by saving workplaces due to the technical and technological substitution of living labour

- by means of the use of industrial robots and process computers,
- by way of a centralized production control and raising the share of automation engineering in the means of production, and
- by converting mechanical and electrical production into microelectronic production.

Purposive recruitment of production workers with definite qualifications for a largely qualification-conformable new employment in jobs with a high level of requirements. The purposive recruitment of labour currently refers to three fields:

- Operation, control and maintenance of new equipment or revamped plants with new types of technologies and process computer controls;
- Construction of means of rationalization including industrial robots in the interest of a rationalization of production
- Operation and servicing of existing high-production equipment for raising the efficiency of shift operation.

As a rule, the fields of employment are qualification intensive. It becomes apparent that a deficiency in vocational experience cannot in each case be made up by measures of further education. A definite range and level of experience available in work and vocation is required for a successful further education in these fields of employment.

Proceeding from the potential of experience needed the following lines of qualification have proved to be socially justifiable and advisable in terms of the economy of education:

- Operator/supervisor for the operation/supervisor of **modern** machines and equipment;
- Maintenance fitters for servicing and maintenance of **modern** machines and equipment;

- TUL-workers for TUL-tasks in new plants;
- Maintenance workers and machine fitters for the construction of industrial robots or means for rationalization.

The vocational education of working people is systematically used in the following way as a factor of rationalization:

1. The specific qualification of workers capable of executing additional tasks with a higher work content and coupled with the saving of workplaces. The following versions are worth mentioning:
   - Qualification for the additional acceptance of equal operations that can be carried out parallel to the working task agreed upon (e.g. additional operation/supervision of sections of the plant by operators/supervisors, or additional servicing and maintenance of automation engineering of additional sectors of plant by maintenance workers);
   - Qualification for the additional acceptance of operations which by tradition were allocated to other vocations or levels of qualification (e.g. foreman), although they are at the same time also within the field of application of the acquired vocation (e.g. certain laboratory works to be carried out in the production plant, or certain maintenance tasks to be conferred on operator/supervisor);
   - Qualification for the mastery of additional as a stand-by requirement or for increasing mutual replaceability in production for operators/supervisors as well as maintenance workers in automation engineering.
2. Formation of optimal vocation and qualification structures in newly formed production teams by way of training and further education:
   - Planned acquisition of further vocational specializations for the mastery of the new technology in the sphere of vocational application;
   - Development of vocationally related fields of employment for skilled workers who cannot be re-employed in a vocation-conformable manner by taking vocation-expanding measures of further education with substances from other trades;
   - Formation of efficient production teams in new plants by a systematic and joint qualification of young skilled workers in production processes and technology done by experienced technical personnel.

In order to secure the vocational activities of women in production sectors it is necessary that qualification is specifically carried out in a way that the acquired vocational qualification of women is geared to women-conformable fields of employment. This includes

- the priority qualification of women as work-team leaders and for managerial functions (e.g. as first machine and equipment operator in the chemical industry; this has proved successful especially in employing women at display-assisted supervising workstations);

- the qualification of women in those fields where the reproduction of labour in the long-term perspective can be reduced via vocational education.

Above indicated strategies for the recruitment and training of labour are adopted in all combines studied so far, but they receive different importance in the combines due to the present-day specific conditions in them. With the greatest part of savings in PCK Schwedt-combine being reached by resorting to a systematic work organization (WAO) in conjunction with qualification, the efficacy of WAO-work in EKO-Eisenhüttenstadt-combine and the increase in qualification was primarily coupled to technical and technological rationalization. The existing possibilities to win production workers for new tasks in the vocations required are equally different. It was possible, for instance, in PCK to recruit virtually all labour for new plants in the vocations needed, whereas in EKO workers of other vocations had to be won and qualified in considerable numbers for new production facilities.

Demands for Production Workers in a Steel Mill and Meeting the Demand by an Enterprise

Vocation required	Enterprise existing sources of supply in consideration of the possibilities for release
Metallurgist for metallurgical engineering	– Workers without skilled-worker certificate, or with a skilled-worker certificate in other vocations
Iron-and-steel worker, specialization: blown steel	– Workers in allied vocations, such as metallurgist for rolling mills, rolling-mill workers, metallurgist for moulding, maintenance fitter
	– Workers with a skilled-worker certificate in allied vocations, yet in a different field of specialization, such as metallurgist for metallurgical engineering, foundry worker, blast furnace worker
	– Graduates from vocational education as metallurgist in metallurgical engineering, specialization: blown steel.

The emergence of the latter requirement is that the extension of enterprise production with a novel profile leads to a demand for vocations and qualifications which, as shown in PCK, is not in the least proportional to existing

structures of vocations and qualifications. EKO, for instance, was forced to recruit 180 workers out of the total of 780 workers required for the steel-mill from alien or related vocations.

However, this situation does not necessarily lead to changes in qualification requirements, pressing for the acquisition of knowledge of other vocations. Thus the workers recruited for the EKO steel mill were able to use their knowledge and skills they had learnt on the treatment of materials, the requirements of work and production organization in continuous production processes, on the fundamentals of steel production etc, so that these workers could be enabled for the new tasks with by far lower expenditures than would be needed in case of retraining measures.

When summing up the above aspects underlying job changes from the point of view of a change in qualification requirements the following trends in the development of requirements become apparent:

Any job change leads in general to a perceptible increase in the requirements for skilled worker qualification. Here the tendency of complex working tasks is predominant due to the following aspects:

- Mastery of larger technological complexes within the range of activities of the job;
- Mastery of a wider range of specific vocational or professional activities;
- Mastery of additional activities which, by tradition, are not related to the vocational activities.

With reference to the profile of the acquired vocation the following changes in requirements involve the following implications for the worker:

- Shift in qualification requirements
- Expansion of demand structures
- Increase in requirements.

As a rule, a shift in qualification requirements is done either

- to a different specialization of the vocation acquired, or
- to a related vocation.

Shift in requirements within the vocation acquired result mostly from a change to modern vocation-conformable tasks, e.g. from conventional supervising tasks to computer-assisted supervising tasks.

The shift in requirements is mainly reflected in

- a new man-machine communication due to the operation and maintenance of machines and equipment via terminals;
- the approach to new instruments of work (maintenance and assembly of microelectronic component groups and pneumatics);
- the change in the observation and interference in new technological processes and in the control of new working processes (e.g. maintenance and assembly technologies).

As a rule, this shift in requirements necessitates vocation-formating further-education measures.

The expanded structures of requirements has come to be provable in connection with the assumption of larger fields of responsibility.

The systematic expansion of working tasks within existing productions and the transfer of tasks to modern equipment suggest that production workers take the responsibility for larger technological complexes. As a result, the demands are raised on the qualification and responsibility of production workers especially in two directions:

- With the transfer of larger technological complexes there is a growing complexity of the enginering and plant technology that has to be mastered. This entails the need for the acquisition of a specific knowledge, skills and approach orientated towards the technique and technology of the enterprise compared with the previous situation.
- The control and mastery of larger technological complexes require a heightened understanding for the entire technological unit. This is especially of importance for the transfer of working tasks to a higher technical and technological level. It is notably the control of complex technological processes and techniques via process computer which makes great demands on the vocational sensitivity of the technological process. The additional transfer of specific tasks, apart from the already existing ones, leads to a expansion of the requirements structures.

It is primarily the transfer of

- Supervising and control tasks by the operators of machines and plants;
- Working tasks which due to the rationalization of managerial processes are shifted to the production teams (e.g. definite accounting and data-logging operations);
- Maintenance tasks of other trades by maintenance workers (e.g. mechanics-oriented maintenance tasks taken over by maintenance operators of electrical and electronic plants).

By and large, additional demands are made on qualification, requiring a purposive reactivation and, if needed, a partial expansion of acquired vocational knowledge and skills.

On the one hand, as the foremost requirement for a balance of forces in the team, increased demands are raised in the acquired vocation primarily in connection with the compliance with several jobs. From the point of view of production organization such a balance of forces is indicated in those situations when greatest demands are made on the mastery of the tasks to be resolved, e.g. the erection of plants, the startup of equipment or in case of a breakdown. These situations make great demands on the existing work-task-related qualification of production workers. Thus a balance of forces is

needed in case of startup or stoppage of large-scale chemical plants due to the greater number of labour required, which is only achievable on the basis of vocational proficiency, i.e. the absolute control of the plant.
Yet, such demands on qualification emerge discontinuously. It cannot be practised through day-to-day work. But especially in compact work teams it has to be secured that at any time a high level of qualification is available in as many skilled workers as possible, e.g. by training in case of a breakdown.
The required readiness covers generally the tasks in the field of production. This would mean mastering a greater number of work tasks as presently, especially in enterprises with plant-like production processes.
Greater demands will prove especially important whenever in the wake of release and reinstatement of workers production sectors are merged, so that a re-acquisition of knowledge and skills for other tasks has become indispensable.
Such higher demands in case of job change usually elevate the worker from his acquired qualification level to the next higher one (skilled worker, foreman), involving the need for training and education.
There is a specific profile of educational measures in the enterprise that is determined by the scope and the level of requirements.
Measures of qualification for the start of new work tasks by released production workers

PCK Schwedt Parent works	EKO strip steel combine
– Acquisition of additional vocational specialization	– Acquisition of an additional line of specialization in the vocation
– Training of users for mastering the new technology, techniques and processes	– Acquisition of knowledge, skills and behaviour in a related vocation – Primary and secondary training of workers as skilled workers – Training of users

With task qualification being accomplished in PCK by means of further vocational education due to the largely vocation-conformable re-employment of released production workers, the systematic re-employment of released production workers in EKO is more intensely related to measures of training and further education which lead the worker beyond his once-acquired vocation.

For production workers who remain in the rationalized production sectors changes in requirements are to be identified in all combines studied which lead to demands for further education with a vocation-shaping character, namely

- Acquisition of qualification certificates to carry out definite activities or to handle certain instruments, objects and the authorization for them;
- Reactivation and partial extension of vocational knowledge and skills which by tradition is not used within the scope of tasks of the vocation, such as knowledge and skills for maintenance tasks by operators/supervisors or for mechanical maintenance tasks by electrical maintenance fitters;
- Training of users for the mastery of the new technology, technique, processes.

These measures are basically aimed at raising the vocational disposability of production workers in the production sectors.

In order to guarantee semi-skilled and partially skilled workers a further employment in rationalized production sectors it is necessary to intensify their training to skilled workers. This need is coupled with the considerable reduction in the number of semi-skilled and partially skilled jobs due to rationalization and with the higher level of demands made on vocational disposability of workplaces. In several combines there are, e.g. mandatory instructions on rationalization, demanding the elimination of semi-skilled jobs in certain production sectors altogether in connection with release and transfer projects. This is a fundamental and radical measure to prevent the reproduction of semi-skilled qualifications for related jobs.

The example of PCK shows clearly the scope at which the share of semi-skilled jobs is cut back in case of projects for the recruitment and the re-employment of labour. This combine reduced the share of semi-skilled labour from 18 to 12% from 1978 to 1982. The parent enterprise PCK alone trained 500 semi-skilled workers to skilled workers. This accounted for almost one third of the workforce that was released or transferred to other jobs in the enterprise over the same period.

With the continuation of rationalization and intensification in the combine the share of semi-skilled jobs was further cut back to 7% by 1985. In EKO similar results were required in order to reach the objectives of release of workers. The share of semi-skilled labour had to be reduced from 14% to 7% in the period from 1981 to 1985. However, it should not be left unmentioned that every year in this territory school-leavers from lower grades have to be absorbed, with their numbers exceeding the vocational employment possibilities of the enterprise. As a result the once-reached share of semi-skilled workers in the enterprise is reached again and again. In order

to offset this trend it is required to make intensified efforts to train workers to skilled workers.

Other combines which were studied were faced with similar problems.

The recruitment of labour for new tasks by way of rationalization leads to *consequences in education* for adult vocational training. This idea is to develop

- a permanent readiness for change or for the additional acceptance of work tasks, and
- the approaches and behaviour required for coping successfully with new or additional work tasks.

The educational work of vocational education for adults is thus embedded in a field of complex educational influences exerted on the worker in the enterprise (educational work by the state management, the workers' teams, the trade unions and the other social organizations in the enterprise). The specific educational task of adult vocational education in the enterprise is above all *to prepare the workers systematically* for the new or changed tasks by means of the

- Development of a high degree of vocational disposability of workers as a premise for the willingness to change the job with the aim of imparting to workers continuously a special education and, if required a basic vocational education, so that a successfully experienced and instant familiarization and acquaintance with new tasks is rendered possible;
- Evolvement of an understanding for the objective requirements and long-term effects of intensification by way of a political and economic further education as a premise for the further development of responsibility towards the increasing amount of funds and the approach of workers to a change in working conditions, such as new types of collective relations, reduced communication and a more rigidly determined technological regime of work.

The very fact that the demand for labour in the enterprise has to be largely met via the recruitment and qualification of labour for new tasks, would mean that adult vocational education takes a growing share in the tasks to develop the required structure of vocation and qualification. This is also applicable if there is a demand for vocations or qualifications in the enterprise which is not in the least proportional to the available vocational and qualification structure, so that workers have to be recruited and qualified from other vocations.

Vocational education is also faced with new requirements.

PCK was compelled to intensify vocational education in a way that future operators of equipment for chemical production had to cope with the training programme prematurely, enabling thus the systematic increase in skil-

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led-workers disposability in the phase of vocational specialization. The reduction in training time was utilized for the acquisition of additional licenses, while the qualification for special tasks was carried out after vocational education within the framework of further education. For a number of skilled vocations new requirements have to be met in terms of a specification of the content of training due to the introduction of new techniques and technology. They include primarily the integration of training subjects required to control

- new types of production processes
- the operation of process computers and microelectronic controls in traditional production processes.

Recruitment and re-employment will mostly affect those production workers with modern branch-typical vocations and a broad profile. They will be best suited to correspond to the change in qualification requirements or to the vocational fields of employment due to a re-definition in their special vocational education.

Combines with larger projects of labour recruitment due to rationalization carry out the educational processes by establishing enterprise panels. The task of these panels is the management and the enforcement of educational work within the framework of these projects.

Functional integration of educational work into enterprise staff work to put through the release and transfer program at PCK

Panel for the management of the release and transfer program	– *Council for Intensification,* as the managerial body for staff work; it is composed of the managers of the enterprise structural sectors responsible for concrete measures in putting through the release and transfer program, including the director for personnel/education and the manager of the enterprise educational institution for adult vocational education; – *Panel for intensification,* as a body to put through management decisions taken by the Council for Intensification; it is composed of responsible cadres of the managerial departments of the enterprise, e.g. the department of personnel/education.

Working groups for putting through the release and transfer programs
(Working groups of the Panel for Intensification are honorary teams of WAO (scientific work organization) in the managerial departments of the enterprise and its structural sectors. Their work is supported by the members of staff in the working groups "Deployment, guidance and qualification of labour" with the Council for Intensification by regular consultations).

Working Group of the Council for Intensification

- PR-work
- Stimulation
- Emulation
- Deployment, guidance and qualification of labour
- Enterprise organization
- Technical safety
- Working and living conditions
- WAO-team to prepare for the startup and production capacities.

The educational institution is involved in the working groups of 'Deployment, guidance and qualification of labour' and in the WAO-team to prepare for the startup of production capacities. The working group 'Deployment, guidance and qualification of labour' is headed by the director of personnel/education and comprises the experts from

- the group of educational planning with the director of personnel/education;
- the enterprise educational institution of adult vocational education;
- the department of cadre development and personnel, labour and wage policy;
- the department of law
- the sectors of production.

The WAO-teams to prepare for the startup of production capacities incorporates members of staff of the group 'educational planning' and the enterprise educational institution.

The activities shown by such enterprise panels is primarily aimed at reaching the required co-ordination and co-operation between the structures of enterprise sectors. As for educational activities it is important that the co-operation between the enterprise educational institution and the other enterprise sectors is achieved administratively in the interest of a solution of

the educational tasks. The solution of these tasks is closely linked to the solution of the social and cadre tasks as well as with the rationalization activities in the enterprise. These questions are taken up within the panel and are discussed in a working group in an adequate interdisciplinary manner. In this context the close interrelatedness of contents of the following subjects is considered in the first line:

- Determination of the qualification and vocational structure required in the enterprise and establishment of a concept to implement this structure;
- Establishment and instructions given to a conversion committee; instructions to the enterprise sectors for the solution of the personnel tasks in connection with the systematic recruitment of labour; co-ordination and control over the planned re-employment of labour;
- Derivation of educational consequences and instructions in preparation for and in enforcement of qualification measures.

The activities displayed by the educational staff of the enterprise educational institution for vocational education has been integrated into work priorities. Educational staff take part in outlining the concepts of educational measures to cover the demand for labour, in solving personnel tasks by instructing the sectors in the politico-ideological qualification to bring about the required mobility and performance of workers and in deriving the educational measures from WAO-acts or from the technological rationalization and its planning, preparation and implementation. They also take part, if required, in the examination and educational elaboration of documentations on the use of the upcoming technology for education. The scope of responsibility of educational personnel for the educational tasks of the enterprise increases in the process of education. The educational work in production sectors, such as the preparation of qualification programs, the determination of individually available qualification, educational organization, is supported by a continuous and task-related instruction by authorized personnel of the production sectors. In this context the authorized personnel for education ist the executive body of the panel group in the enterprise unit.

The personnel-, education- and social project serves as the managerial and working instrument for the preparation and implementation of educational tasks during enterprise manpower movements in the wake of rationalization and intensification. This project was worked out in a different way in the enterprises studied, but in all enterprises it equally serves as the required methodological complement to the educational planning methods (educational programmes and plans). Its function is to carry out the complex ba-

lancing of all required personnel-, educational- and social tasks over different planning periods.

Elaboration and solution of personnel-, educational and social tasks in a project ensure the implementation of the existing correlations between personnel-, educational- and social work involved in this project. The elaboration of the project is closely coupled to the prepared concept on the enterprise intensification project. It begins with the perspective planning of intensification projects and is continued with the elaboration of enterprise intensification and rationalization concepts, the five-year-plans, the annual plans, the elaboration of analyses and projects of rationalization with a view to recruiting and re-employing labour.

This shows that the elaboration of the personnel-, educational and social projects is not a single and non-recurring process, it is subject to constant specifications.

Basic Structure of a Personnel-, Educational- and Social Project Designed to Recruit and Prepare Labour

1. Statement on manpower requirements differentiated and broken down into vocations and qualification levels, intended for the structural sectors of the enterprise following rationalization or extension of production.

1.1. Manpower requirement and qualification and vocational structure for the upcoming tasks related to enterprise rationalization or the extension of production
- personnel groups, share of basic qualification in the qualification levels
- vocations
- share of experienced staff, share of young skilled labour
- share of woman workers according to the share of woman workplaces
- youth brigades.

1.2. Manpower requirements and vocational and qualification structure required in the existing production fields after rationalization.

2. Concept to cover manpower requirements

2.1. Balance of the enterprise working faculty, broken down into qualification and vocational structures of the enterprise

2.2. Statement and balance of sources to cover manpower requirements
- Transfer of workers with required qualification and vocation
- Inflow of workers of required vocations from enterprise vocational education
- Supply of labour from the territory
- Supply of workers exempted for social reasons or returning from military service
- Recruitment of additional labour of definite vocations or qualification by additional rationalization

2.3. Measures to cover manpower requirements
- Decision-making on the concrete lines of transfer in consideration of social conditions and the possible utilization of qualification available;
- Decision-making on the number of apprentices to be trained in a vocation, in a specialization; introduction of new vocations or specializations required in enterprise vocational education, systematic guidance of the excessive supply of apprentices in definite vocations or specializations into employments to be filled in consideration of the perspectives of the acquired vocations as apprentice;

- Measures to employ recruited manpower from the territory especially in connection with long-term qualification contracts;
- Decisions on further possibilities and requirements to recruit labour of certain vocations by means of rationalization for definite tasks.

3. Educational measures (broken down according to type, scope, beginning and ending);

3.1. Measures for the politico-ideological education of workers

3.2. Measures in preparation for the transfer of workers to new tasks
- user training (preparation for training courses on the side of manufacturer, courses with the manufacturer, instructions at the future workplace);
- Acquisition of certificates and authorizations (licenses)
- Acquisition of specializations
- Training of workers to skilled workers
- Additional task-related further-education measures.

3.3. Measures to enable workers to take over modified working tasks in rationalized production fields
- User training (for means of rationalization)
- Acquisition of certificates and authorizations (licenses)
- Task-related further-qualification measures on the basis of enterprise programmes;
- Training of workers to skilled workers

3.4. Measures to streamline the structure of vocations (skilled trades) in enterprise and to raise the level of vocational education of apprentices.

3.5. Measures to streamline the content of skilled trades
- Basic vocational education
- Special vocational education.

3.6. Measures to provide for the acquisition of vocational specializations.

4. Measures for the social support of affected
- women
- elderly workers, especially workers who, for health reasons, can only be employed under certain conditions.
- ex-servicemen.

4.1. Provision of woman workplaces and age-conformable jobs.

4.2. Social support for the required qualification of workers

5. Measures to ensure the managerial implementation of educational tasks
- Participation in the managerial bodies of enterprise
- Cooperation between structural units of enterprise

Contents of Rationalization Analyses and Projects to Put Through a Manpower Recruitment Plan

I. Content of analyses of rationalization
- Analysis of work organization, filling of jobs and distribution of tasks
- Analysis of workplaces and work regulations
- Analysis of woman workplaces
- Analysis on utilization of work-time
- Analysis into the transfer of work from other vocations.

II. Content of analysis reports on scientific work organization (WAO)

1. General objective with number of manpower to be recruited, formation of workplaces, working and living conditions, the principles of material and non-material stimulation
2. Results
2.1. Nominal saving of workplaces/workers per annum
2.2. Essential outcome in raising the effectiveness of work, such as the simultaneous increase in labour productivity, improvement in the material-technical basis, quality work, utilization of worktime, planed character of work.
3. Essential conclusions drawn from available analyses
4.1. What possibilities arise for the
- saving of workplaces
- saving of working hours
- creation of woman workplaces

4.1.1. Possibilities for rationalization indicated in problem analyses
4.1.2. Creation of jobs for women
4.2. Increase in efficiency of work by embarking on the various ways of raising effectiveness in production fields;
Technical/technological solutions in WAO
4.3. Necessities for improvement of working and living conditions
4.4. Use of auxiliary technical instruments
4.5. Increase in the level of qualification (reference to the plan of personnel/education).

III. Rationalization Project

5. Presentation of the nominal state according to plan
5.1. Characteristics of main tasks of the managerial sector
5.2. Outline of the managerial structure with abilities of management, expenditure, specialization, coordination, extension of managerial and working sectors, survey on managerial structure and manpower employment

5.3. Definition of tasks and competences in line with distribution of tasks between subordinate management levels
5.4. Development of work standards with employment standards, down-times, worktime regime
5.5 Level of qualification required
5.5.1. Development of unskilled and semi-skilled labour
5.5.2. Work in other vocations
5.6. Technical equipment
5.7. Technical safety
5.8. Development of socialist emulation
5.9. Working and living conditions
5.10. Material incentives
5.11. Work on the basis of indicators
5.11.1. Survey on established posts after rationalization
5.11.2. Survey on envisaged rationalization of manpower according to employment groups and years
5.11.3. Summary on the results of savings of work-time, workplaces and posts.

IV. *Plan of measures*
6. Plan of measures to carry out the nominal project
6.1. Technical or technico-organizational measures
6.2. Managerial and enterprise-organizational measures (Changes in structure)
6.3. Organizational measures for labour
6.4. Qualification measures
6.5. Miscellaneous measures

54 Correlations between personnel-, educational and social work in the projects studied for the recruitment and re-employment of labour

Educational work	Personnel work	Social work
Derivation of educational tasks and stipulation of educational measures, especially – derivation of educational tasks	Utilization of the sources of recruitment for the required supply of workers, especially determination of the manpower requirements according to vocation and qualification and the differences to the vocational and qualification structure of labour to be recruited or already recruited	Creation of social conditions to cover the requirement for labour especially examination and outline formulation of social conditions for the guidance and the employment of released labour
– Outlining of educational measures to cover the requirements for labour	Elaboration of measures to cover manpower requirements	Safeguarding of vocational perspectives indicated by means of the educational measures by resorting to adequate social measures (e.g. vocational activities during shift operation has to be accompanied by care for children)
Planning, preparation and implementation of educational measures	Guidance, employment, re-employment of labour	Creation of individual social conditions for re-employment and qualification of labour,

especially by the – preparation of educational measures	especially formation of the readiness for mobility und qualification of working people, provision of required time for qualification by resorting to suitable measures for safeguarding production, i.e. release of workers, replacement, change in working conditions of working people.	especially creation of individual social conditions for the promotion of the readiness for mobility and qualification of workers (clarification of accommodation in case of change of place of living, provision of crèche- and kindergarten places, wage-adjustment payments a.o.

General approach to the preparation of personnel-, educational and social conceptions

	Principal steps of approach
Preparation and elaboration of a personnel-, educational and social project	Determination of manpower requirements according to qualification and vocation Minimization of manpower requirements Finding of sources for meeting the requirement Development of additional sources to meet requirements Preparation and elaboration of a concept to cover manpower requirements according to vocations and qualifications Specification of concept in line with the possibilities for rationalization and recruitment of personnel Stipulation of educational measures Specification of educational measures in line with the specification of concept to cover manpower requirements

The educational formulation of educational measures is primarily determined by a rational approach in order to cover the higher demands for qualification and the greater differentiation in qualification requirements in the enterprise.
In the PCK parent enterprise, in the wake of the rationalization for the recruitment of labour, the annual demand for education increased about 3.5 fold. Over a period of four years some 7,000 workers out of 8,600 workers employed in the enterprise acquired a higher level of qualification, i.e. 80% of the workers, 2,000 of them were women workers. Over the same period, in addition to the measures of training and further education carried out continuously at the enterprise academy, some 500 measures of further education were put into practice, with some 400 of them being operated as training courses and group instructions with about 11,000 participants.

Scope and development of the demands for education with the Schwedt initiative in PCK parent enterprise

Period	Measure	Participants	Hours
1978			
BNW[1]	3	42	107
Further education on the basis of enterprise programmes	4	176	200
1979			
BNW[1]	33	529	3,330
Further education on the basis of enterprise programmes	21	896	3,970
1980			
BNW[1]	59	1,203	4,370
Further education on the basis of enterprise programmes	268	5,163	24,170
1981			
BNW[1]	62	1,121	3,248
Further education on the basis of enterprise programmes	297	4,797	22,660

[1] Certificate for authorizations, i.e. a permit or license to carry out certain operations or activities or to handle definite working instruments or operating tools.

It was necessary to put these measures into practice on the basis of an essentially constant amount of labour employed in enterprise educational institutions. This resulted in a greater attention to those conditions which exert an essential influence on the effectiveness of educational work. Thus

solutions were especially considered in relation to qualification which are apt to reach a high degree of educational economy by the effective use of qualifications available with a view to cutting back on the syllabus and by a methodological approach to it.

The following approach and attempts at formulation can be distinguished:

- Consistent utilization of individually available qualification and the unfolding of the potentials of vocations

Based on this approach involving comparatively low expenses for qualification substantive effects were reached in terms of the assumption of additional or new tasks. This is important for the qualification of young skilled workers who, as in PCK, have to be prepared for the higher demands made on skilled-worker qualification in rationalized production sectors after their vocational education. It also applies to those workers who are qualified for employment beyond their acquired trade. This approach leads to a more pronounced experience-related individualization and accordingly to a higher differentiation among the measures for qualification. It requires higher preparatory expenses which result, however, in a partly considerable cutback in qualification time and thus altogether in lower expenditure for enterprise educational work. This approach is facilitated by modularly worked out complexes on the subject-matter.

In order to meet the different qualification requirements arising in the wake of the qualification of workers, PCK worked out modular complexes of requirements for the new or newly established working tasks used as a basis for the formulation of individual further-education programs. The contents of qualification measures when drawn up according to the modular principle make it possible to pay regard for already available qualifications and, in addition, provide a rational foundation for further-education organization.

Materials for individual or private studies were worked out for every complex of requirements. Thus the conditions of those workers are being taken into account which could not be provided in due time at the beginning of the intensive training courses for new plants.

- Far-reaching organizational and spatial shifting of further training into production sectors or the work process to cut back on qualification expenses

More than three quarters of the further-education measures in PCK made as a result of rationalization were carried through in the production sectors. For this purpose the lecturing and instruction rooms in production sectors were rearranged according to didactic principles and the so-called 'qualification sponsorships' and individual-study activities were increasingly incorporated into the process of work as forms of teaching and learning. It

was especially this approach which secured a rational utilization of time for the qualification of production operatives.
In operating further-education courses in the production sectors it was required to work out the further-education programs under three aspects of utilization:

- Use as instruction for part-time employed teaching personnel;
- Use as a learning task for the workers to be trained;
- Use as an instrument of supervision by the enterprise educational institution to safeguard the educational efficacy of qualification.

The shift of qualification into the production sectors permits the technical knowledge and skills of workers to be allsidedly utilized for a rational mastery of the comprehensive and different teaching tasks. However, this measure led to a virtual doubling in the number of part-time employed teaching staff in the PCK parent enterprise in the course of rationalization. The ratio between full-time and part-time employed teaching staff in the enterprise rose to 1:50. Also rational approaches developed to recruit and to employ technical cadres for part-time teaching assignments. An important type of employment of enterprise technical staff for part-time teaching tasks is to take over sponsorships. Here special importance has won the sponsorship for the qualification of workers who are prepared to take over additional tasks or are re-employed in existing plants. Specifically, released workers give their vocational experience to the remaining collective.
The qualification of workers re-employed in new plants is made in the form of user training on the principle that the first trained future management cadres will qualify their production collective at the new equipment, i.e. largely at the equipment in the stage of erection. As a result the costs incurring for user training remain low for the manufacturer of plants. In addition, the qualification of the production collectives by the future manager will facilitate the formation of production teams.
PCK is operating intensive training courses as user training for the employment in new plants. But here the qualification expenses arising during training will be relatively high in case of a generously designed qualification organization.
For instance, to handle the bio-technological plant, the operators of the plant received 183 hours of practical training and 502 hours of instructions in theory.
In general, qualification expenses are considerably diminished due to the systematic use and development of mobility of skilled workers. This is attributable to the utilization of the high general and polytechnical level of skilled-worker qualification involving already vocational training with a modern vocational basic education and to the systematic connection be-

tween special education and the general educational content inherent in the assignment-related qualification of workers.
As a result, the foremost requirements are created for the rapid mastery of additional tasks in the production sector, for the active and creative co-operation of working people in reaching and securing a high rate of productivity in work, for a rational change into new spheres.
In this context the advantages gained from 10-grade vocations[1] over 8-grade vocations[2] become especially apparent in terms of the use and the development of mobility.
During any change of assignment for a new technique or technology it was the high level in theory, the political, economic and technical fundamental education and the polytechnical character of vocational education based on the completion of the 10-grade general polytechnical secondary school which secured the effective and individually successful acquaintance of workers with the new working tasks.
Here reference is to be made to experience gained in the qualification of workers with 8-grade vocations for sophisticated tasks. The vocationally narrow practice-oriented experience of such a vocation does mostly not lend itself to adjust the worker to the requirements of highly qualified work with sophisticated technology by resorting to further education.
The conclusion would be to subject the worker to a repeated education to acquire a 10-grade educational level. However the workers concerned will voice their reservations.

3.3. Educational measures related to job change for medical reasons

It has always been a social need to use the social working faculties of each individual worker as effectively as possible over his/her entire working life in line with his/her level of qualification and the requirements of the national economy. It is both a significant economic prerequisite and a high-priority social commitment in a socialist society to maintain and unfold the working faculties in all ages. A variety of measures in all spheres of social life are designed to preserve social working faculties. Great efforts are made to largely eliminate heavy work and health-injurious working conditions, thus doing away with substantial obstacles to performance and personality development in the process of work. But at present as well as in the

1 10-grade vocations: A vocation that can be acquired on the basis of the school-leaving certificate of the 10-grade general polytechnical secondary school (POS). This is social standard currently attained by some 85 % of the age group.
2 8-grade vocations: A vocation requiring the successful completion of 8 grades of POS.

near future working conditions continue to exist, to a certain extent, with specific, partially extreme stresses and loads leading to a premature wear of certain performance prerequisites in individual working faculty and necessitating a timely change of vocational activity in order to avoid any irreparable damage to health.

The cause for a temporally limited exercise of certain vocational activities is the increased health hazards or the developing impairments to health due to year-long definite vocational activities. The set of causes is closely linked to the state of development of the productive forces, the scientific level reached in the formation of working and living conditions as well as their different level of reproduction.

Another distinction appears to be important in terms of the present and the future basis of existence:

- Impediments to work in the "classical sense" of the word, i.e. heavy or heaviest physical work coupled with forced body postures and static work leading mostly to one-sided high-degree physical loads on certain organs, especially muscular and skeleton systems.

Due to stress and load optimization under a personality-promoting work design it is possible to increasingly suppress such hardships of work. Their complete elimination will however be impossible in the near future.

- Impediments to work in the "modern sense" of the word, i.e. the special stress and load on specific sensory-physiological and psychical performances, for example the specific and partially one-sided load of eyes and the sensorimotor system (in case of micro-assemblies with the help of optical auxiliaries and video workstations).

It becomes obvious that on the basis of the current state of development of productive forces conditions of work continue to exist, though to a limited extent, which do not completely rule out the possibility of health hazards due to year-long exercise of a vocational activity. In order to largely avoid any health hazards or to prevent any irreparable damage to health it will be indispensable to provide for prophylactic change of job or vocation to be systematically implemented.[1]

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1 Any job changes due to accidents or due to recognized occupational diseases are not considered here together with the resulting educational tasks set for the unfolding of new fields of vocational occupation.

General description of a health-related job change

The limitation in time on the exercise of vocational activities due to potential health risks can arise at a relatively early time, say, between the first third and the second third of working life.[1] This would mean that the workers affected are right in the middle of the active working life, they are 35 up to 50 years old, the majority of them being highly qualified skilled workers with 15 to 30 years of vocational experience.
These workers still face a considerable portion of their working life (15 to 30 years, i.e. 30 to 60% of their working life).
This group of workers has gained vast experience in work and life, a high vocational proficiency and, as a rule, a generally acknowledged position, a recognized social status in the work team and in other spheres of social life.
Altogether a large potential of capabilities and working faculties is required to be maintained and developed. The relatively early moment for the required transfer in relation to working life calls for conceptional ideas on the effective utilization of potentials inherent in social working faculty which provide solutions on the maintenance and development of working power over the entire span of working life.
The temporal limitation can be characterized as a complex problem of industrial-medical, scientific, sociological and politico-educational implications.
In working out solutions for coping with the process of transfer a coordinated inter-disciplinary co-operation is needed because

- a break with continuity in vocation and socialization has to be avoided and the vocational perspective in the working process has to be secured;
- the process of transfer is embedded in a complex social, economic and social structure of conditions.

An isolated analysis into and a solution to a specific problem make it possible to acquire scientifically founded knowledge and attempts at solution, yet do not provide a sufficient basis for complex solutions which are to be systematically put into practice. This shows that although substantive groundwork can be done by educational research a satisfactory solution to the problem will necessarily include also industrial-medical, scientific and socio-political knowledge.
As a principal and rational attempt at solution, the problem of temporal limitation demands already a prophylactic job transfer on account of the health-hazardous exposures.

1 The working life of skilled workers in the GDR is 45 to 47 years (men) and 40–42 years (women). Vocational activities begin at the age of 18 or 19 and end at the age of 60 (women) and 65 (men).

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Conditions and assumptions for planning educational measures

The attempts to cope with the implications emanating from educational measures are decisively influenced by two factors that are beyond the competence of vocational education, namely

- the precautionary release of workers from health-injurious exposures after the onset of the critical exposure range;
- the long-term development and planned provision of enterprise transfer jobs.

In securing the aspired social level needed for solving the issue it is required, in addition to above demands as foremost prerequisites for determining the educational implications to raise further demands on the transfer jobs, say, for the

- compatibility of the objective demand structure of the new fields of activities with the psycho-physical performance conditions;
- exhaustive use of the high qualification potential of skilled workers;
- employment on the qualification level of a skilled worker;
- safeguarding of continuity in personality development
- safeguarding of a socially and economically efficient employment.

In addition to the fulfilment of these demands there are also such subjective aspects, as attitudes, expectations and needs of workers that exert a decisive influence on whether the transfer jobs offered are accepted. Apart from these specific individual components deeper-going sociological and socio-psychological factors have to be considered. In this context it is only possible to refer to several relevant aspects.

Predicated on a high level of education and qualification in interaction with the demands for qualification in the concrete job the needs of working people develop more and more towards a substantial, interesting and socially relevant work. According to sociological studies the principal needs are the following:

- Need for a kind of involvement in the unfolding of the socialist society which views the individual person as a recognized member of this society;
- Need of self-affirmation by a successful application of acquired abilities (need for being productive)
- Need for activity in a community providing social security (need for being productive as involvement in the social safeguarding of living conditions)
- Need for material security.

On the other hand, the persistent absence of demands does not only result

in a loss in qualification, but also in negative effects on working morale, readiness to learn and activity.
The great priority of above demands on the transfer jobs has been borne out by the results of interrelated sociological studies carried out on satisfaction at work and on the problem of fluctuations. Thus it has become obvious that the discrepancy between the subjective pattern of expectations and the conditions to put them into reality leads to dissatisfaction at work and increases the inclination to fluctuations. Equally important appears to be the finding made in sociological studies that among the criteria that determine the standing of an individual person in a community priority has been accorded to technical knowledge, abilities and skills. This is a clear reflection of the high regard given in the minds of workers to the level of qualification and education.
To meet the requirements for vocational activities determined by the social development the contents and the conditions of work in the transfer jobs have to be shaped or selected in a way that vocational activities can be safely continued and the development of personality is fully guaranteed in the process of work.

Educational implications arising from health-related job change

The temporal limitation on the exercise of vocation for health reasons at a relatively early time of working life can bring about a change of vocational activity. In safeguarding the vocational perspective and guaranteeing vocational continuity it is the task of vocational education to contribute towards a timely and planned preparation for new transfer jobs.
In carrying out a health-related job change efforts are made to open up new vocational fields of activity mostly in the old enterprise or in the local region with the help of State authorities. However, priority is given to the search for new fields of activity in the enterprise.
But the consistent, timely and planned preparation, say, vocational further education, for new enterprise activities is influenced by two basic conditions that are outside the reach of vocational education:

1. Timely precautionary release of the workers affected from health-damaging exposures, and
2. Long-term planned provision of qualification-conformable jobs in the enterprise.

Only if these two factors are consistently taken into account it is possible to reach effectively the aspired target, i.e. the systematic precautionary change of job or vocation to avoid injuries to health. And it is only the consistent observance of these two factors which leads to the economic and social efficiency, as planned.

The precautionary elimination of workers from health-damaging exposures and the provision of re-employment possibilities will help create the internal conditions stable enough for the transfer inside the enterprise due to medical reasons.

From the point of view of the acquired vocation the temporal limitation may not only require a transfer to other fields of activity within the acquired trade but also to fields of activity of other vocations. This is directly influenced by the

- content and profile of vocation
- extension of the temporal limitation to the vocational fields of the trade
- specific industrial and sectoral conditions as well as by the actual possibilities of employment.

Enterprise conditions and the potentials inherent in the acquired vocation provide the framework for internal transfers and determine the concrete educational implications. Various educational measures, different in contents and scope, are the result. Content and scope of qualification required are derived from the type and depth of changes underlying the qualification requirements due to job change. Thus the change of vocational activities is not only limited to fields of activity within the profile of the acquired vocation, but an employment in related or unrelated vocations is likely also possible and becomes necessary.

Thus the range of educational consequences may even cover

- the partial updating of further education and training in the skilled trade
- the acquisition of further vocational specializations in the skilled trade
- the acquisition of further vocational specialization in an alien skilled trade
- retraining measures and re-education courses, i.e. acquiring a new skilled trade.

Despite the wide range of educational implications the required assumptions for qualification are predominantly provided by vocational measures of further education.

The availability of typical and stable enterprise institutions for transfer offers the points of departure for an effective planning, preparation, organization and further education. But in addition educational planning is committed to developing also effective procedures and solutions to education for transfers that are currently opened up.

The existence of stable transfer lines together with those to be developed when needed points to two principal criteria for enterprise educational work in connection with educational measures designed to bring about health-related job change:

First: Acquisition of required vocational qualification as an indivisible unit of vocational education and further education taken as a prerequisite for the

use of long-term stable vocational employment possibilities. This would mean that content and profile of a trade-school vocation provide already the qualification foundations for a later precautionarily effective job change which will be expanded, deepened and updated in line with the concrete qualification requirements in the future enterprise transfer possibilities. The planning of so-called modular further-education units, as a measure of qualification preparation for a planned job change, will reach also the highest rate of effectiveness in educational work. These modular further-education units, by their very nature, have to be worked out in a temporally flexible and adaptable manner. Given the variable time for the onset of further education prior to transfer any current changes in qualification requirements have to be met and to be integrated into the educational modular units.
Alongside with this, any available qualification elements are to be reactivated and updated.
Second: Provision of further-education measures which are to be currently outlined by the enterprise educational institution and to be put into reality by it, or which are tailormade to individual cases on the basis of available vocational qualification as a preparation for the required transfer to relatively unspecific fields of employment.
These basic attempts are a reflection of the possibilities inherent in vocational education in the interest of an economically and socially effective health-conditioned job change. On the one hand, the competent State Authority for Vocational Education can draw up the concepts of a vocation in a way that vocational education incorporates already the qualification foundations for a future health-conditioned job change, which can be acquired by adult vocational education in line with the concrete qualification requirements to be met in the transfer field. But on the other hand, the enterprise educational institution has to respond responsibly and dynamically to it by outlining and carrying out educational measures with different contents.
Given the existence of long-term stable vocational fields of employment there are two variants for a principal conceptional approach.

Variant 1: Health-conditioned job change within the acquired vocation

If a health-conditioned job change within vocations with a broad profile and several lines of specialization is known to be provably concentrated on employments of a definite specialization it is necessary from the very beginning to develop one or several other vocational specializations–with a suitable profile of load–as fields of transfer for the health-conditioned job change of skilled labour. In this context it would be socially and economi-

cally highly effective to have a vocational line of specialization especially worked out as a line of implementing any health-conditioned job change. The basic qualification already existent in the vocation could be largely utilized together with the vast accumulation of experience gained in work and vocation. Based on it and in keeping with the change in qualification requirements the qualification already available could be updated, expanded and re-developed as a result of vocational further education. This approach would also not require any intervention into the conceptional outline of vocation. This variant can be put into practice inside the enterprise through the planning of the reproduction of enterprise working faculties. The coordinated planning of reproduction faculties between vocational education, ordered according to vocations and vocational specializations, and the future health-conditioned job change for any suitable vocational specializations could provide the basis for the systematic provision of transfer capabilities within adequate vocational specializations. This shall be illustrated by the following example.

The trade of a steel shipbuilder is a wide-profiled vocation with the lines of specialization "building of ship's hull and outfit". The physical requirements to be met by the vocational employment fields in the specialization 'ship's outfit' are ergonomically optimal, so that a precautionary health-related job change into vocational employment fields of this specialization would be feasible and sensible. The vast accumulation of experience gained in work and vocation in metal working and reprocessing and in mounting ship components can be fully utilized and thus systematically expanded.

Compare Fig. 1.

Variant 2: Transfer to related or unrelated, i.e. alien fields of employment.

This variant has to be used if no other predisposition-conformable vocational transfer possibilities can be provided within the spectrum of vocational employment fields of the acquired vocation. New fields of vocational employment can be provided by utilizing the relations of affinity between vocations. This variant is destined to become effective by the enterprise structure of vocations and qualifications and by their inherent demand- and predisposition-conformable transfer fields. Educational expenses are determined by the degree of utilizing the relations of affinity between vocations.

This variant is illustrated in Fig. 2. This attempt at solution was taken from shipbuilding.

Given the existence of long-term stable enterprise transfer fields it is possible to program already clearly formulated vocational further-education measures with unequivocal content, yet a flexible approach in preparation

for the transfer and in line with the qualification requirements in transfer fields as well as in coordination with qualification assumptions, including the accumulated experience in work and vocation. This approach can even be made more efficient by the

- integration into the vocation of a line of specialization as a vocational further-education measure, or programmed vocational measures of further education;
- coordination between vocational education and vocational further education as to content and organization;
- flexibility in approach to qualification preparation.

Thus it is possible to provide certain vocational foundations as early as in vocational education, allowing to acquire specific vocational knowledge and vocational skills, which otherwise would be lost as qualification potentials due to year-long absence of use.

The example from the mining industry shows that it is possible to create the basis for future systematic job change already with the vocational outline and with State decision.

Fig. 1:
Variant 1:

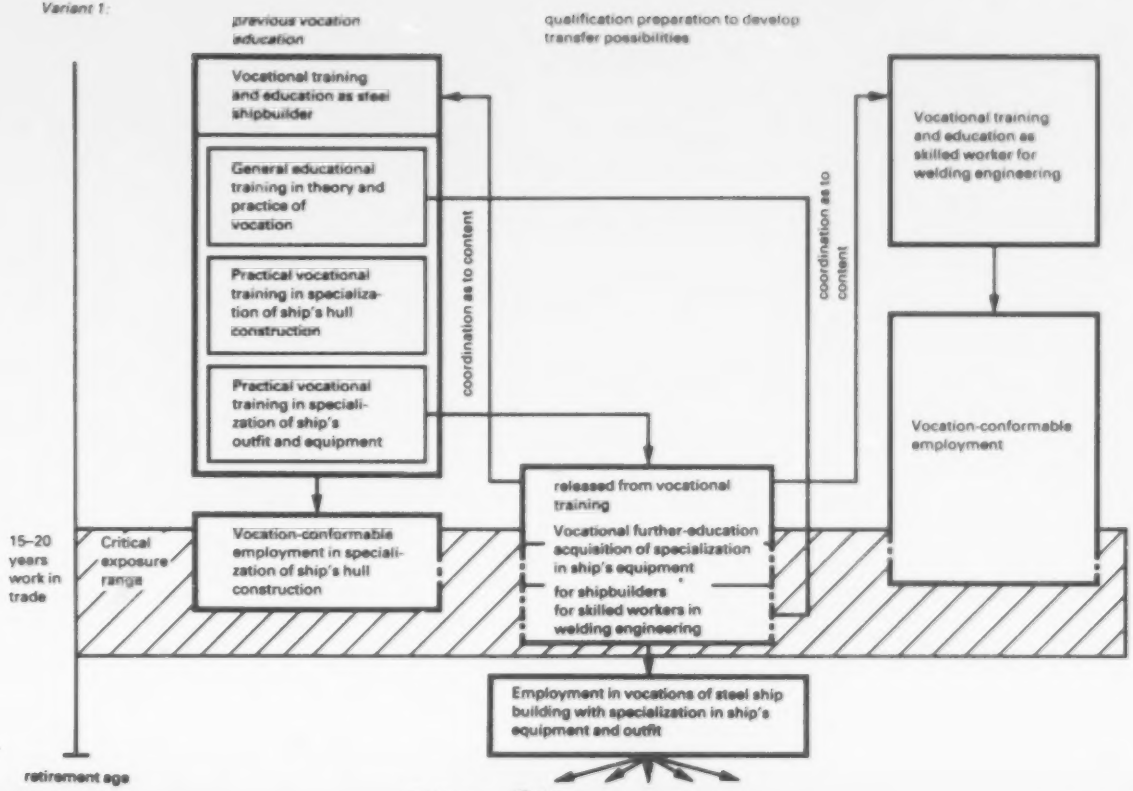
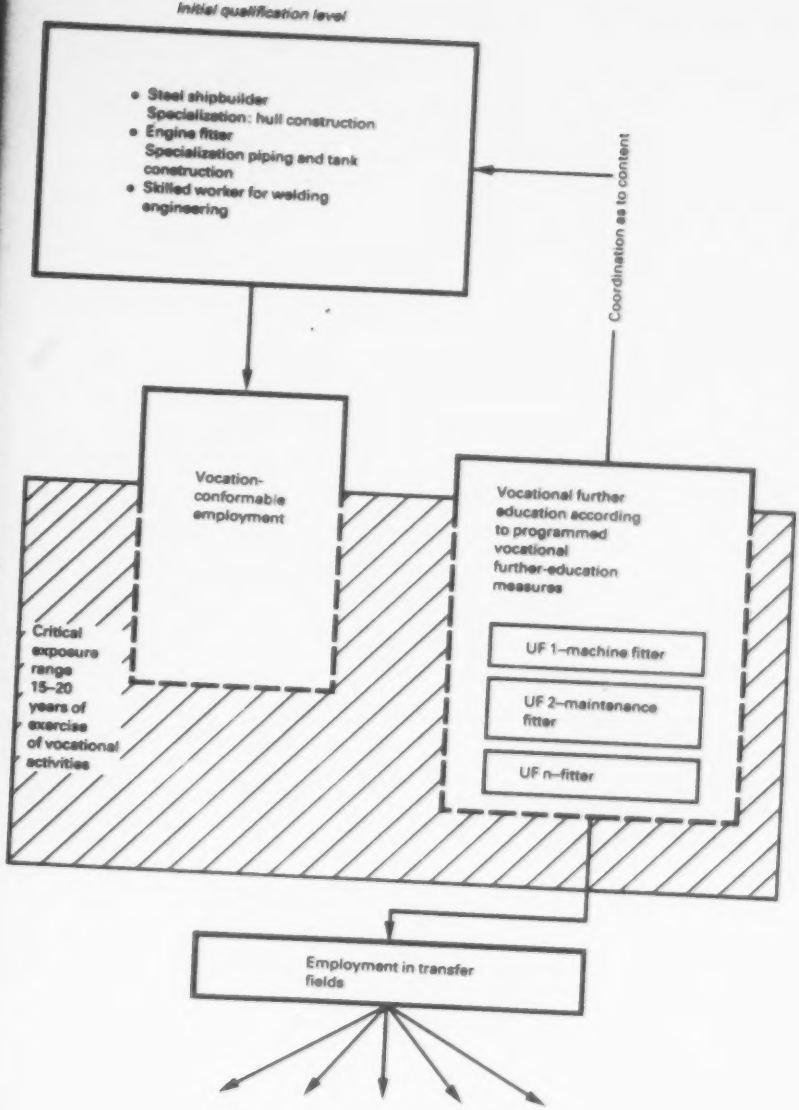

previous vocation education
qualification preparation to develop transfer possibilities
Vocational training and education as steel shipbuilder
General educational training in theory and practice of vocation
Practical vocational training in specialization of ship's hull construction
Practical vocational training in specialization of ship's outfit and equipment
coordination as to content
coordination as to content
Vocational training and education as skilled worker for welding engineering
Vocation-conformable employment
released from vocational training
Vocational further-education acquisition of specialization in ship's equipment
for shipbuilders
for skilled workers in welding engineering
15–20 years work in trade
Critical exposure range
Vocation-conformable employment in specialization of ship's hull construction
Employment in vocations of steel ship building with specialization in ship's equipment and outfit
retirement age

Fig. 2
Variant 2


Initial qualification level
• Steel shipbuilder
Specialization: hull construction
• Engine fitter
Specialization piping and tank construction
• Skilled worker for welding engineering
Coordination as to content
Vocation-conformable employment
Vocational further education according to programmed vocational further-education measures
UF 1–machine fitter
UF 2–maintenance fitter
UF n–fitter
Critical exposure range 15–20 years of exercise of vocational activities
Employment in transfer fields

The vocation of a mechanic for mining engineering which since 1980 has been an apprenticeship vocation and existed parallel to the skilled worker for mining technology gives much greater attention to the technical and technological progress reached in mining, with the resulting qualification requirements outlined in its concept.

The nature of extraction and transportation is much more in the centre of emphasis for the skilled worker in mining technology, whereas additionally the mounting and maintenance-providing functions have also been increasingly shifted into the vocational centre of the mining-engineering mechanic. This mechanic is then provided with a high measure of mobility.

Given this definition of vocational contents essential foundations are created for the future employment in craftmanship-oriented vocations. This expandable possibility is attributable to replaceable relations with the maintenance fitter.

The vocation-conceptual definition of the vocational content prompted by technical and technological innovations creates the vocational foundations for the unfolding of a new field of vocational employment from the side of qualification which lend themselves to vocational further education in line with concrete qualification requirements. However, the viability of these foundations, i.e. the formation of conceptionally applicable vocational foundations for a future development of new fields of vocational employment, has still to be tested in greater detail. Yet, the principal possibility for expansion is already existent in the vocation.

The following is an example that shows the systematic provision of qualification in the interest of a socially motivated job change.

In preparation for the qualification of INTERFLUG stewardess staff there are principally two ways for their future vocational occupation.

INTERFLUG is trying, on the one hand, to reproduce the stewardess staff completely via a vocational education as commercial clerks.

Thus the initial qualification as commercial clerk provides the basis for the future employment of the air-hostess staff after their active air service.

This solution, however, though made with a clear vocational orientation, cannot become fully effective at present since the majority of air-hostess staff is still currently reproduced via other jobs.

In line with another vocational approach it is possible for this staff via adult vocational education to acquire the qualification of a transport clerk. Both solutions will also provide the foundations for air-hostess staff to acquire the qualification for their future employment in ground service.

These solutions imply two variants of vocation-educational reactions to temporal limitation concerning the exercise of certain vocations or vocational activities.

Assumptions for qualification models

The situation and the conditions for implementing above patterns of education and qualification in connection with a systematic health-conditioned job change are decisively determined by the continuous provision of adequate transfer possibilities, the advance identification of potentially affected persons and by the legal formulation of social and labour-law skeleton conditions.

An important premise for the establishment of an effective enterprise management and planning concept on health-conditioned job change is to make an accurate identification of that part of enterprise working faculties employed at such workplaces where health-injurious impairments cannot be safely excluded. Any indications and hints have to be taken from the regular medical check-ups[1], from sickbed and fluctuation analyses and from the age-structure in enterprise sectors. In applying the method of industrial-hygiene complex analysis it is possible to identify those fields of vocational employment where a transfer might be needed.

In addition, the annual transfer rate is another important indicator for planning. Here it is needed to include empirical data and theoretical knowledge. So far knowledge is still insufficient concerning the long-term and late-time lesions caused by individual industrial-hygienic factors or by the combined effect of several factors. In using the wealth of experience gained by industrial medicine as well as by the enterprise physicians due to the regular check-ups of exposed workers it is possible to ascertain a critical exposure range as a reference value for a precautionary transfer. However, with the entry of the worker into the critical exposure range, there is no need for an automatic job change. Rather those workers who look back on an adequate number of vocational years have to be introduced into the close-meshed system of requirement-conformable supervisory check-ups and specific dispensary measures. In conformity with the results of examinations and check-ups prophylactic transfers will have to be planned.

In the interest of a long-term planning of reproduction of labour in combines and enterprises it is necessary to consider the measures on systematic job change for social and health reasons. In this context the potentials underlying the co-ordinated relations between vocational education and reproduction of labour will have to be used to the full for certain fields of employment in keeping with the psycho-physical predispositions, so that for certain employment fields the reproduction of manpower is reduced via vo-

1 The GDR Labour Code stipulates that workers with physically heavy or health-injurious work shall undergo regular free-of-charge medical examinations. Compare § 207, Labour Code of the GDR as amended of June 16th, 1977.

cational education, with adult vocational education being put into effect, however, with those workers earmarked for transfer.

In shipbuilding the reproduction of the labour force in those vocations closely related to typical shipbuilding vocations, such as maintenance mechanic, machine and engine fitter (specialization: mechanical engineering) and fitter is no longer completely secured via the vocational education of apprentices, but increasingly via vocational further education of those skilled workers who come from typical shipbuilding vocations.

Relationships were determined for a wide range of skilled-worker vocations and drawn up in a catalogue showing the vocational generic relationship. It is thus possible for the enterprise educational institutions to derive from it the relationships between those vocations and professions which are of interest to them. This shall be illustrated by an example.

Thus the following criteria should be used in substantiating the decision on the kind of transfer fields which are to be ultimately considered in case of a health-conditioned job change:

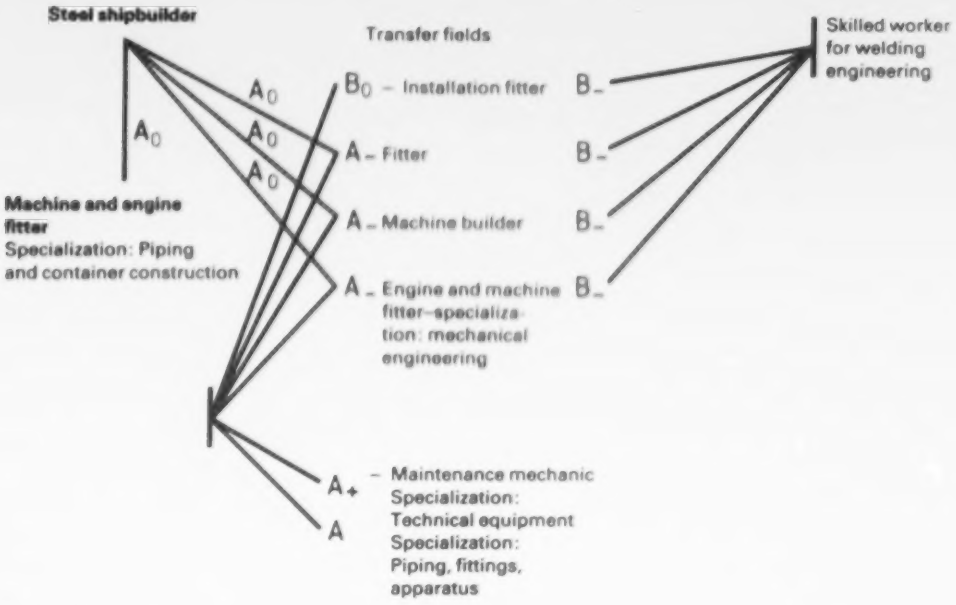
- Compatibility of job requirements in the transfer field with the performance predispositions of the worker
- Qualification-conformable employment
- Economic utilization of qualification potential in those skilled workers earmarked for transfer
- Guarantee of continuity of vocational and personality development inside the transfer field
- Preservation of an individually satisfactory and economically effective employment.

The aspect of quantity, i.e. to establish proportionality between need for transfer and possibility for transfer, is turned into a decisive component in the course of restructuring the reproduction roads of labour. As a result, high demands will be made on the department "Cadre-Education" for the permanent maintenance and development of enterprise labour due to precautionary transfers and the systematic mediation in providing the indispensable qualification requirements. The manifold complex problems encountered in the planning, designing and implementation of solutions as to temporal limitation necessitate a co-ordinated approach of the various enterprise units. It becomes absolutely necessary to set up a working group composed of experts in industrial medicine, experts from employment fields, professional educators and representatives of the department "Cadre and Education".

The department "Cadre and Education" should be in charge of this working group. This department serves as the co-ordinating organ for the solution of partial processes, such as the identification of workers for transfer, provi-

sion of capacities for fitness examinations and check-ups at the moment of entry into the critical exposure range, elaboration of a catalogue of transfer possibilities, for planning, preparation and management of further education and the clarification of problematic social and labour-law questions.
The basis for the general outline of practicable solutions and for the systematic observance of the temporal limitation is provided by the integration of these partial processes into a *cadre-education and social project*.
Special responsibility is to be assumed by the enterprise educational institution in conjunction with the preparation and implementation of further-education measures in an attempt to provide the qualification requirements to be met for a systematic transfer. It is necessary to outline further-education measures on the basis of the proposed models and to adapt them to current changes in requirements. Apart from the formulation of the conceptionally programmed further-education measures adult vocational education is faced with especially high demands in relation to the methodological, didactic and organizational preparation and implementation of further-education measures prompted by the breadth of qualification variations, the experience in work and vocation, the heterogeneous age structure and the partial individualization of further education.

Relationships between typical shipbuilding vocations and the basic qualification in transfer fields



Legend:

(A) – Point with many contacts
(B) – Average number of contacts
(C) – Few points of contact

(+) favourable for reference job
(–) favourable for assigned vocations
(0) equally elaborate

3.4. Educational measures to re-integrate mothers into the process of work

In all spheres of social life women are making major contributions towards political, economic, scientific-technical, social and intellectual-cultural progress. The working faculties of working women have undergone a substantive quantitative and qualitative development in the "Decade of Women".

Women account for about 50 percent of working people. More than 91 percent of all women and girls in active age are presently employed, learn or study. The qualitative development is reflected in the share of women workers with complete vocational education. Some 82% of women workers have a complete vocational education. The working faculty of women workers has, by quantity and quality, achieved an equal and equitable level when compared with men.

It has been possible under socialist conditions to liquidate continually and systematically the discrimination against women in education and qualification, which was handed down in the course of history. But to make use of the tremendously accumulated working capabilities of women in the social reproduction process would require to pay great and consistent attention to the dual role of women over the entire span of working life. The vocational activity of women in the first third of working life is characterized by special conditions that become effective.

This dual function, as a working woman and mother, emerges very clearly in this stage and becomes intensely effective.[1] This age span accounts for some 92% of annual births. Another breakdown of this age span reveals that more than 64% of births happen between the 19th and the 26th year of life, or some 30% between the 20th and the 23rd year of life.

In this phase of vocational activity where the social function as mother–existing as a vocation-accompanying phenomenon–becomes especially apparent it is that maternity-conditioned job change is called for by women.

A maternity-conditioned job change emerges mainly in two forms[2] which are closely related to each other.

First: A temporary suspension of vocational activities attributable to the birth of the children.

1 The period covering the years from the 19th to the 32nd year of life is considered the first third of working life.

2 Apart from a change of vocational employment, change of working sector, change of workplace, the temporal suspension of professional or vocational activities is also understand as job change.

This is a temporally staggered job change, with the release from and the return to work being shifted in time. This period of a suspended, yet legally safe employment relationship may cover one to three years in dependence upon the sociopolitical measures used.[3]

In the time of the suspended employment relationship changes in working instruments, technology and work organization may arise in the wake of the intensification of the social process of reproduction, necessitating further education. On the other side, subjective educational demands may emerge in conjunction with the preparation and re-integration into the production process, such as the reactivation of qualification elements, say, the restoration and stabilization of skills, the updating of knowledge, etc.

Second: Job change from one enterprise employment to a different enterprise employment

This kind of maternity-prompted job change is indicated immediately with the return to work. With the advent of the social function of mother the working mother is faced with changes in the subjective conditions of her professional activities. The objective nature of job requirements and conditions, notably the working time, has to be geared to the individual character of family situation, conditions and interests. Hence, shift work plays a major role for them in that many women are desirous of giving up shift work temporarily in the interest of the care for the children and the family.[1]

This type of job change does not simply involve the transition to day-shift work within the previous sector but may rather require the employment in a different vocational sector due to technical, technological and organizational conditions. It is possible that substantive changes in qualification requirements are caused by a change in sector. Re-employment may be possible within the profile of the acquired vocation but also within the profile of an alien vocation. Content and scope of required further education are determined by the degree of available and utilizable qualification.

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1 In accordance with the sociopolitical measures enacted on May 1st, 1986, mothers can be exempted from work up to the end of the end of the first year of age of the first and second child. The period of exemption from work for the third and all following children is 1.5 years. All these are paid leaves for the mother. In addition, exemption from work can be extended up to the 3rd year of age of the child if the application for a place in the crèche cannot be complied with. After the expiry of exemption the enterprise is obligated to continue the employment of the woman in line with the provisions of the employment contract. Cp. GDR Labour Code of June 16, 1977 (GBl I, No. 18, p. 185); paragraph 246 and 147.

2 § 243 (2) of the GDR Labour Code sets forth the legal foundations which clearly reflect social attention vis-a-vis women with children in pre-school age (up to the 7th year of age). § 243 (2) states in concrete terms that women with pre-school children at home are allowed to reject night-shift and overtime work.

In sum, the course of vocational activities of working women in the first third of working life is shaped by the birth of children and the related accomodation between vocational activity and maternity. This is expressed in the successive stages of vocational activities:

- Vocational education and training
- Short-term vocational activity
- Suspension of vocational activity due to maternity
- Continuation of vocational activity with a high measure of continuity and extensity.

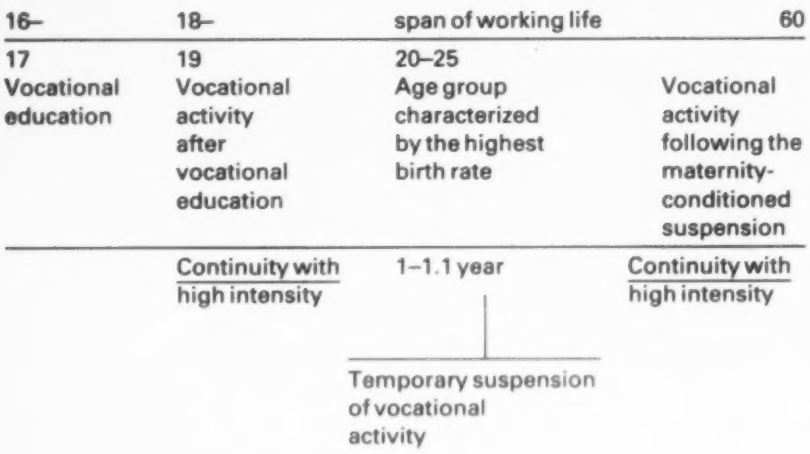


Fig. 1: Course of vocational activities with women[1]

The succession of stages of vocational activity reflects the real nature of equality of rights of women in the process of education and work. At the same time it reveals the need of women for continuous vocational activity even under the accommodating conditions of vocational activity and maternity.

1 Continuity of vocational activity is expressed by the ratio between the duration of previous vocational activity, or a definite period of vocational activity to the potential duration. Extensity of vocational activity, as a measure of full-time employment, expresses the ratio of individually agreed work-time to the nominal one within a definite stage of vocational activity.

It is indicative that vocational activity is prepared together with vocational education on the diversified levels of qualification. Vocational activities following the period of vocational education are temporarily suspended due to maternity. This stage is characterized by the variability in time when vocational activity is suspended. Vocational activity can be suspended after several years of vocational activity but it may also be suspended in the phase of vocational acquaintance or already during training.
Thus an early first birth will be beneficial for the utilization and development of labour potentials, so that the first suspension of vocational activity becomes discernible already after a short period of vocational activity.
Another conspicuous aspect is that there is an increasing tendency towards a two-child-family. The annual birth rate of 1983 reveals a share of 36.6% of second children, which means that in above sequence of phases there is a second suspension of vocational activity.
Another feature is the duration of suspension of vocational activity. In 1985 the average duration of suspension was 1–1.1 years. Thus it was possible in the GDR due to its sociopolitical measures to reach a considerable reduction in the duration of suspension. With those born in the years 1935 or 1940 the duration of suspension was still 2.6 or 2.3 years. 90% of all suspensions were used for the care of children in pre-school age.

Sociological analysis of attitudes to reconcile vocational activity with motherhood

The relevance of vocational activity to women can be identified and specified in different ways. But the aspects of social importance and self-realization take an above-average dimension.[1] The material importance of vocational activity lies far below the average.
Vocational activity and motherhood are extremely important to women independently of their vocational qualification and their age. Women have developed a persistent need for vocational activity. Although with an increasing number of children motherhood is gaining in importance, the vocational activity for mothers even with several children has never lost its importance. In sum, it was found that the subjective conditions for the resumption of vocational activity after suspension due to motherhood are predicated on the following assumptions:

1 The dimensions used to judge the importance of vocational activity involve, among other things, the following items: social relevance–establishment of contacts, the feeling of being needed, importance of self-realization–use and expansion of knowledge, abilities and skills.

- Great importance attached to a continuous vocational activity after suspension of same
- Pronouncedly expressed subjective and objective reasons for a temporary rejection of shift work
- Latent readiness in every third women for a temporary cutback in working hours.

Maternity-related job change and educational implications

Step-by-step more favourable conditions have been created in the GDR with a view to reconciling vocational activity with motherhood. Thus it was set forth in terms of Labour Code that women with children in pre-school age are given the right to reject night-shift work and overtime work.[1]
Another essential social aspect to reconcile vocational activity with motherhood is to provide nursery places in pre-school institutions. At present, 81% of pre-school children, aged 1 to 3, can be provided with places in children's crèches. But the following stage, the age of children's kindergarten, can care for all children up to the school-entry age, if their parents wish it.
Since the reconciliation of vocational activity with motherhood is always secured for concrete specific conditions of an individual person on the level of enterprise and against the backdrop of a specific vocational qualification additional aspects emerge in relation to the identification of vocational implications. The general conditions underlying the type and direction of a socially determined job change are the following:
- Structure of enterprise, the profile of production
- Position of enterprise within the territory with regard to the specifics of industry and industrial congestion
- Structure of vocation and qualification of enterprise
- Concrete professional profile
- Concrete enterprise conditions (regime of working hours, principle of sex-specific division of labour and cooperation).

These conditions have to be taken as complex conditions, they suggest a specific enterprise trend in transfers for the socially conditioned job change and stake out a field of transfer possibilities at a certain qualification level.
Thus, with the enterprise structure, the production profile and the position of enterprise within the territory, the objective framework conditions are charted for enterprise transfers. But the actual utilization of the objective en-

1 The pre-school age of children covers the 6th and the 7th year of age. The date of birth is decisive for school enrolment.

terprise transfer capabilities–without inclusion of the territory–is concretely put into effect by the enterprise structure of qualification and vocation, the vocational profile of the vocation in question as well as by the enterprise conditions (regime of working hours, principle of division of labour and co-operation).

But it is the structure of enterprise and the profile of production that is apt to mark out the objective frame of enterprise qualification and vocational structures. Any motherhood-related job change can only be conceived of as an enterprise labour movement within this framework.

However, this objectively projected framework can be expanded by the inclusion of the territory. Previous inclusions of territory were done individually, i.e. in relation to the fluctuation of workers.

Inter-enterprise concepts with the integration of the territorial bodies tend to guarantee a planned formation of manpower movements beyond the enterprise.

The limiting factors on the real transfer range are the following:

- Industrial-hygienic conditions (legal normatives for women jobs)
- Sex-specific enterprise division of labour and co-operation
- Regime of working hours
- Vocational profile.

Job-change characterization from the point of view of vocation

Empirical studies distinguished four basic forms of a motherhood-related job change, when viewed from the angle of the profession. This distinction is predicated on a comparison of the vocational fields of employment prior and after job change with regard to changes in qualification requirements and the utilization of available qualification.

1. Employment in the same sector, the same job as prior to the suspension of vocational activity
2. Employment in an alien sector, yet within the profile of the acquired apprenticeship vocation.
3. Employment in an alien sector outside the profile of the acquired apprenticeship vocation.
4. Fluctuation within the territory.

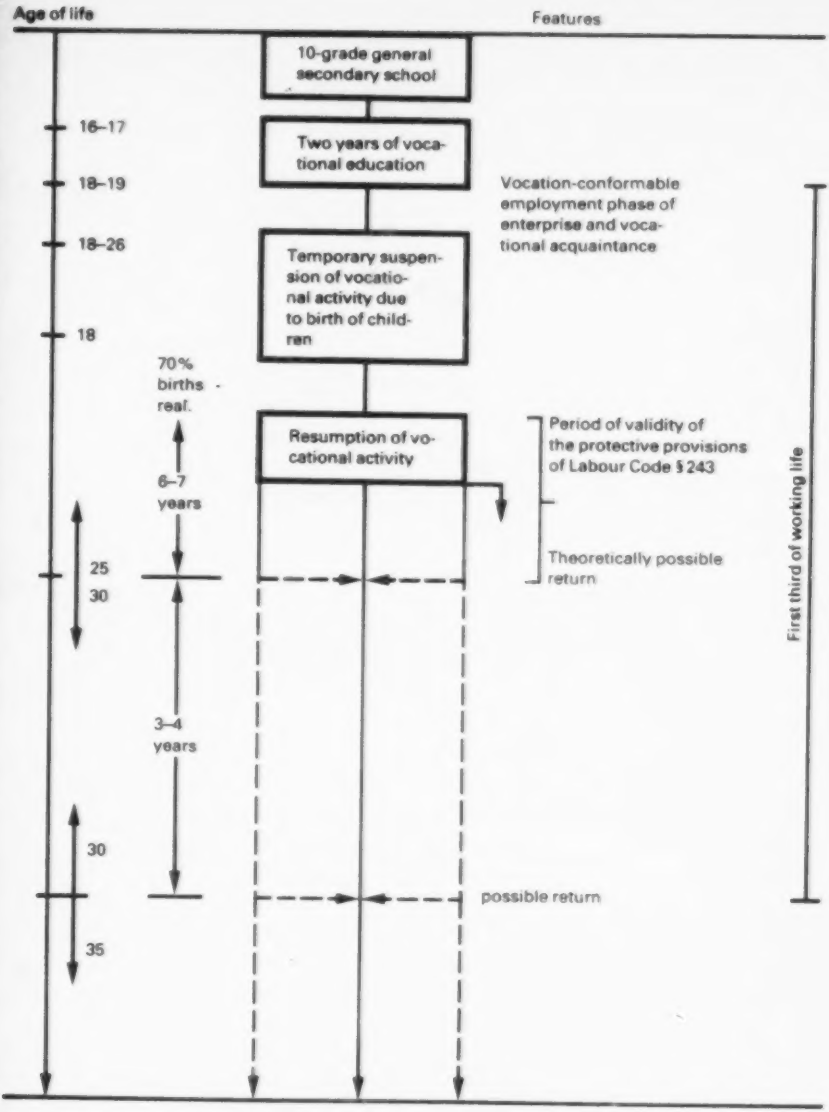


Fig.: Schematic representation of socially conditioned job change

Legend to Fig.

– Course of vocational activity

1–4: Typical cases of vocational re-employment

These four basic forms suggest the establishment of three groups with regard to the determination of educational implications. They are to be presented and discussed below.

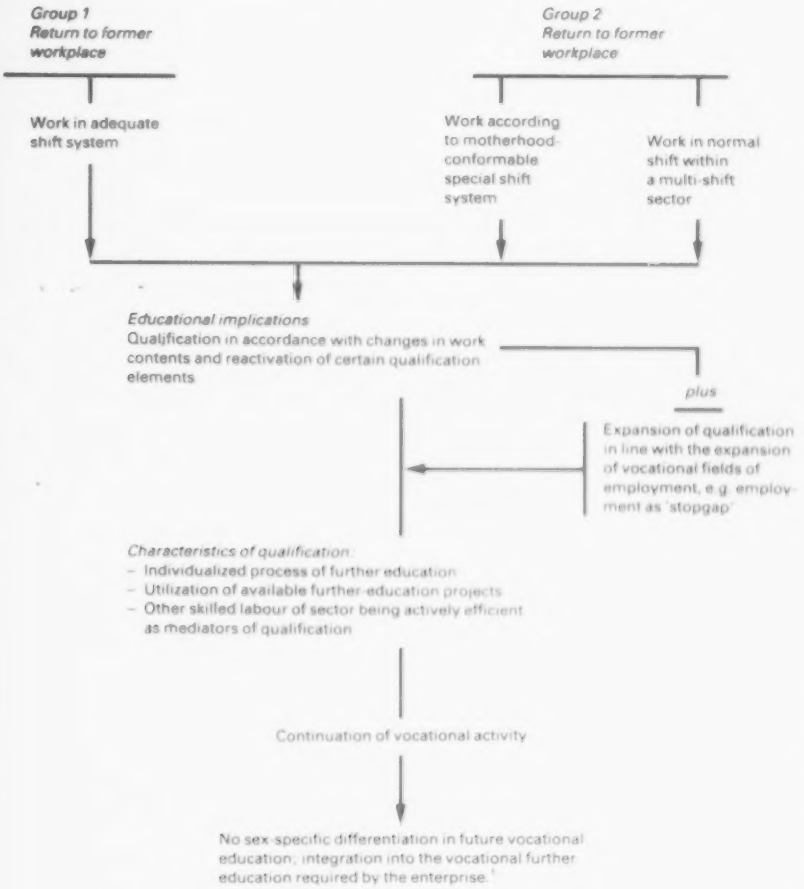
Type No. four–fluctuation within the territory–shall not be discussed here in greater detail. This individually made decision for the creation of favourable conditions to reconcile vocational activity with motherhood has to be accepted as an established solution. Any educational analysis into this type of solution would be virtually senseless due to the dissipation of labour, i.e. the manifold roads taken by manpower. The identification of typical roads and trends taken in the change of labour and working faculties is infeasible, because any vocation-related reactions are subject to individual influences, i.e. individualized reactions, without any useful and generalizable vocation-related solutions.

As for case No.4, i.e. labour migrates to other sectors of the national economy, it might be required to provide for educational measures in the absorbing sectors. The enterprise educational institution will work out further-qualification measures in line with the concrete qualification requirements and the available qualification with a view to scaling down the deficits in qualification arisen. Fluctuation within the territory is economically ineffective, yet it secures an individually oriented accommodation between vocational activity and motherhood. Naturally, this case cannot be ruled out, because it ensures that vocational activity and motherhood are reconciled according to individual requirements.

Discussion of the three groups of job change, as presented, to determine educational implications

1. Return to the sector or department, to the workplace prior to the suspension of vocational activity
2. Return to the sector or department, to the workplace prior to the suspension of vocational activity, but work to be done under a change of organization of conditions (special shift plans).
3. Enterprise labour movements have to be put up with inside and outside the acquired skilled-worker vocation.

Below graphic illustrates group 1 and 2 of a motherhood-related job change and suggests educational implications


Group 1
Return to former workplace
Group 2
Return to former workplace
Work in adequate shift system
Work according to motherhood-conformable special shift system
Work in normal shift within a multi-shift sector
Educational implications
Qualification in accordance with changes in work contents and reactivation of certain qualification elements
plus
Expansion of qualification in line with the expansion of vocational fields of employment, e.g. employment as 'stopgap'
Characteristics of qualification:
– Individualized process of further education
– Utilization of available further-education projects
– Other skilled labour of sector being actively efficient as mediators of qualification
Continuation of vocational activity
No sex-specific differentiation in future vocational education; integration into the vocational further education required by the enterprise.[1]

1 The GDR Labour Code provides for differentiated measures for women with children up to the age of 14 concerning their support for training and further education. Compare § 241.

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In case of motherhood-conditioned job change in group 1 and 2 the sex-specific demand for further education is, temporally, concentrated on the immediate return to work. Here emphasis is placed on the

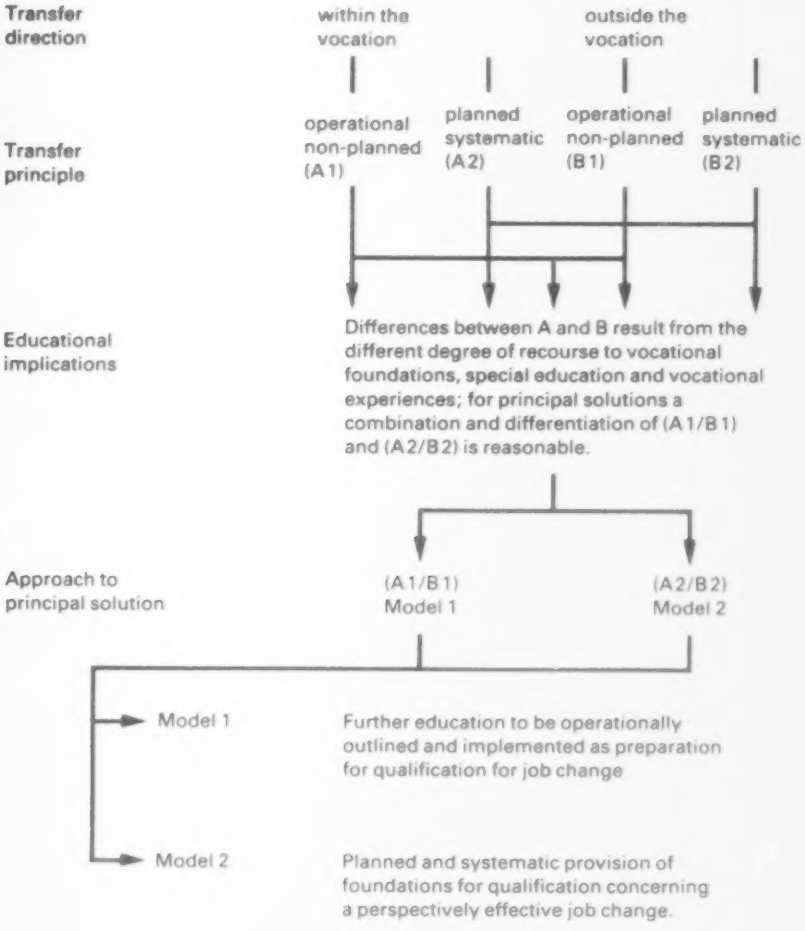
- Scaling down the deficits in qualification by suspending vocational activity
- Reactivation of essential action-regulating qualification elements and the reactivation of vocational skills
- Expansion of vocational qualification in line with the extended field of employment.

These are demands for further education which do not involve any new requirements to be met by the enterprise educational institutions. These measures of further education, when specifically worked out with a view to their methodological and didactic formulation can draw upon a comprehensive wealth of accumulated experience. Individualized further education, especially made upon return to former workplace makes it possible to resort to new organizational, methodological and didactic variants in further education. Stimulating conditions are provided by the existence of further-education projects and by the available potential of experience gained by qualified skilled labour, technical and management cadres. In line with these conditions it is necessary to work out the most effective variants of organization with specifically tailormade methodological and didactic concepts.

Group 3:

Manpower movements to be implemented inside the enterprise

As for enterprise manpower movements it is important to distinguish between those manpower movements within the skilled-worker vocation and those which lie beyond the vocation.


Transfer direction
within the vocation
outside the vocation
Transfer principle
operational non-planned (A1)
planned systematic (A2)
operational non-planned (B1)
planned systematic (B2)
Educational implications
Differences between A and B result from the different degree of recourse to vocational foundations, special education and vocational experiences; for principal solutions a combination and differentiation of (A1/B1) and (A2/B2) is reasonable.
Approach to principal solution
(A1/B1) Model 1
(A2/B2) Model 2
Model 1
Further education to be operationally outlined and implemented as preparation for qualification for job change
Model 2
Planned and systematic provision of foundations for qualification concerning a perspectively effective job change.

Model 1

A priority place is taken by operational educational activities in the interest of securing a motherhood-indicated job change. Aside from the operational nature of educational work there is the individualization of further education which, as an essential characteristic, is an integral part of educational work. Both the operational and the individual aspects determine decisively educational work in relation to this model approach.

The different periods of vocational suspension after the birth of children do not only necessitate a differentiated approach towards identifying the changes in qualification requirements but also a differentiated analysis into available knowledge and skills, vocational abilities and proficiency.

The inclusion of these two aspects, i.e.

- changes in the objective qualification requirements and
- identification of existing qualification

creates the basis for the outline of further education.

In working out its measures of further education, the enterprise educational institution has the methodological instruments and inventory as well as the experience required for educational tasks to be solved on the basis of this model.

The indispensable first step is to ascertain the objective changes underlying the content of work. The objective changes in demands on qualification have to be derived from the analysis of objective modifications in technico-technological parameters and indicators of production, changes in the production profile and the alterations in division of labour and cooperation. In principle, these qualification requirements to be inferred from objective changes in the content of work are basically nominal indicators of the kind of qualification to be acquired and are general objectives in the process of further education.

In order to determine the actual qualification requirements it is necessary to identify, describe and categorize the qualification existing. The expenses of further education are reduced by identifying the predisposition of performances and attitudes shown by skilled workers who are to be qualified. Undoubtedly, it is of invaluable benefit to arrive at an exact assessment of available knowledge, abilities and skills together with persuasions and attitudes to manage the new tasks. Basically, thes premises are related to experience. For this reason, the identification of the actual qualification is commensurate with a purposive analysis of experiences gained and existent in skilled workers.

The following comparison of requirements with existing qualification secures a methodologically safe and economically effective report on required consequences for further education.*/16/

Model 2

The planned provision of qualification foundations suggests the idea that the motherhood-conditioned job change can be channeled into relatively stable and typical transfer lines.

There is an example to discuss the model.

The skilled worker for textile engineering is a vocation with a specific professional education/17/ that is typical of the manufacture of textile materials.** The skilled worker for textile engineering, given his specialization, secures the manufacture of threads and fabrics together with their finish. Essentially, the working functions are characterized by operating and surveilling activities over semi- or fully mechanized textile machines.

Due to the special 'lead' character of thread- and fabric-manufacturing processes over subsequent technological operations (clothing manufacture) multi-machine operation and shift work (continuous 3-shift system or uninterrupted week-long sequence) predominate.

These conditions make it difficult to reconcile vocational activity with motherhood and are apt to prompt job change. The possible reactions by the enterprise to job change are determined by the works structure and the production profile. This means that the technological textile hardware engulfing the enterprise exerts its influence on the breadth of the enterprise reaction spectrum (enterprise transfer potentials). The "single-stage enterprises", such as spinning mills, and the "multi-stage enterprises" with several processing stages (thread- and fabric manufacture with finishing and the manufacture of clothing) have proved to be marked by relevant structural features. Thus any job change is affected by the immediate dependence on enterprise structures. Here the enterprise and vocational reactions to motherhood-prompted labour movements in multi-stage enterprises are perceptibly greater. The technological units of the textile process find their equivalents in the form of concrete vocational lines of specialization.

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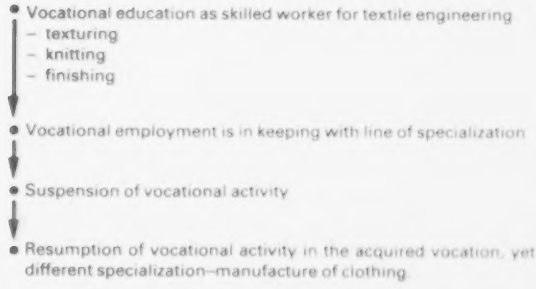
* The methodological approach to determining further-education consequences is described in greater detail: Berufliche Erwachsenenbildung – Abriß Aus- und Weiterbildung der Facharbeiter und Meister, Verlag Volk und Wissen Berlin, 1982.

** The vocational profile of the skilled worker for textile engineering comprises 10 specializations, among others, yarn manufacture, texturing, weaving, knitting, embroidery, clothing, textile fabrics, textile finishing.

The following diagram illustrates the lines of transfer in a four-stage enterprise:


Vocational education as skilled worker for textile engineering
– texturing
– knitting
– finishing
Vocational employment is in keeping with line of specialization
Suspension of vocational activity
Resumption of vocational activity in the acquired vocation, yet with a different specialization–manufacture of clothing

This enterprise-owned transfer can be viewed as a change from vocational specializations within the acquired apprenticeship vocation. The change in the line of specialization is accompanied by a drastic change in work content and, in consequence, in the qualification requirements. The functions in the specializations of texturing, knitting and finishing show the application of the system of multi-machine operation. Operating and monitoring activities predominate in relation to highly mechanized plants. Knowledge, abilities and skills are geared to securing a technology-conformable operation and surveillance of textile machines. Here it was not necessary to have an immediate contact with textile fabrics, their material properties and knowledge of them for processing textile tissues. However, this knowledge is an absolute must for the specialization in clothing manufacture. The knowledge on the material properties of textile fabrics is an indispensable premise for further processing and handling. There are also great changes in the class of activities. In the 'clothing department' assembly activities, such as sewing, are in the foreground with the use of mechanized tools (sewing machines). The principle of manufacture is the continuous-line production system. The functions of work are subject to great specialization due to deep division of labour, with a high level of manufacture.

The content of work is marked by low complexity and by a very short cycle of the uniformly repeating operations (low variability of activity).

Apart from the knowledge on material properties required for the processing of textile fabrics, the knowledge to operate and adjust the major working instrument (sewing machine) it is necessary to train and acquire highly specialized manual skills indispensable for sewing. Thus many attempts have been made and recommendations are provided for the enterprise educational institution to chart out measures of further education with a view to securing job change.

With the knowledge of the previous range of employment and the line of transfer decisive elements are available to define the planning of target and content. Qualification is planned as further education and put into reality as a self-contained entity immediately in preparation for job change. It is also possible to shift selected vocational foundations forward into vocational education. In the immediate preparation for job change further education is then concentrated on the mediation and the buildup of specific vocational knowledge and abilities, e.g. on the formation and stabilization of vocational abilities and strategies of action.

Limits have been set to the integration of certain elements of educational content in the interest of job change from the point of view of cost-benefit relation.

In the same vein, learning and memory-psychological aspects have to be taken into account in relation to a temporal forward shift of educational contents for perspective activities. The benefits for a systematic provision of qualification are that enterprise educational institutions are prepared for part of the socially related job change, i.e. adequate further-education projects exist which guarantee a systematic and methodologico-didactically balanced work of educational institutions.

The foremost requirement for implementing this model outline is to incorporate the socially related job change of working mothers into the annual enterprise manpower planning.

Additional social approaches to reconciling vocational activity with motherhood:

VEB Plastverarbeitungswerk Schwerin developed the department 'consumer goods production' into a sector with mother-conformable workplaces. In this way an enterprise field of transfer was created for the skilled workers of plastic processing.

The sector is now turning out boxes for tools and instruments as consumer goods. Assembly activities and operations predominate as a category of activities.

The existing qualification as skilled worker for plastic processing provides a sufficient basis of qualification for the new tasks.

This enterprise solution–establishment of a department with mother-conformable workplaces–gives women a safe field of employment and secures a continuous vocational activity in the enterprise.

These is still another example illustrating this approach.

VEB Braunkohlenkombinat Senftenberg

The department 'consumer goods production' is up to 60% staffed by women who temporarily leave production on account of securing a better reconciliation of vocational activities with motherhood. The women, thus being active in consumer-goods production for social reasons, are engaged on the basis of a so-called 'changeover contract' as long as the causes for the terms of this contract prevail. After it, a return to the former enterprise departments or to any other sectors is provided on the basis of mutual consent.

The vocational requirements for consumer-goods production are inferior to the vocational qualification acquired. Here semi-skilled operations are needed for, in part, simple assembly activities.

Conditions and aims for the re-instatement of women after suspension of vocational activities

Equality of reights of women is firmly enshrined in the principles of the socialist society and is put into daily reality. Among other things, this principle is reflected in the degree of employment and in the level of acquired qualification. The principle of equality of rights is consistently put into practice in connection with the acquisition of education and qualification. Quite specific, virtually sex-specific conditions become effective in the wake of women's vocational activities. Given the dual function of women in society, i.e. reproductiv function for society and part of social working faculties, it is not at all allowed to cut down on the implementation of full equality of rights in relation to their claim on sociopolitical measures concerning the birth of children and the subsequently effective protective provisions of the Labour Code on mother and child.

Based on this societal concept there are demands and conditions which are made on the re-instatement and re-inclusion of women into the process of work.

Proceeding from the social aims underlying the economically and socially effective deployment with potentials for the vocational and personal development in the process of work, the following demands are expected to be complied with:

- Elaboration of planning concepts and management documents on the re-employment of women and re-integration into the process of work– aspects of management and planning
- Employment on the level of qualification of skilled worker
- Utilization of qualification as well as the accumulated experience in work and trade

} education-economic aspect

- Elaboration of concepts on further education–reactivation, expansion of existing qualification and provision of new elements of qualification–aspect of qualification.

Excerpts from an enterprise concept on the utilization, development and maintenance of enterprise working faculties due to the qualification of worker

1. The possibilities of qualification have to guarantee a high rate of efficiency by taking recourse to existing qualification and experience in work and by adopting rational forms of study and have to be optimally allocated and provided prior to or after job cange in line with the given conditions. In this context it is required to consider also social factors, problems of shift work and education-ecomic aspects.
2. In our enterprise a special center of attention is provided by the possible planned job change after year-long work in the assembly-line serial production section. Any job change which becomes necessary for different reasons, such as social, health, age, a.o., has to be safeguarded in the interest of retaining the worker as member of the regular workforce both for temporary employment and for permanent work.
3. Two basis approaches appear to be suitable for the effective integration of these workers into the process of work:
   - temporary or permanent transfer to the former sector of worker on the basis of different physical and psychic loads at the various workplaces
   - temporary or permanent transfer of worker to a different sector in the enterprise.
4. In order to implement such a regulation it would be necessary to classify the workplaces in line with the various physical and psychic loads, such as
   - high physical and psychic load and stress
   - mainly great psychic loads
   - mainly great physical loads
   - mainly low physical loads
   - mainly low psychic loads
   - low physical and psychic loads and stress.
5. General studies are necessary to identify the teaching vocations and workplaces where in future the social working faculties (manpower) should be reproduced only in part, or to determine the scope of reproduction of the young generation and in return the adequate share of social working faculties to be provided via adult education. These studies should encompass the administrative professions together with those of

material production (commercial clerks, draughtsmen, experts in quality control, experts in storage economy).

6. It appears to be indicated to work out a workplace catalogue (job list) for future use which lists the specifically concrete development possibilities in our enterprise for the workers employed in the production and assembly-lines for serial production.
   The catalogue should list the following:
   - Description of job requirements and tasks at future workplace
   - Payroll perspectives
   - Shift-work regime
   - Required qualification and scope of qualification needed
   - Additional possibilities of development.
7. The elaboration of principles required for the evolvement of such a system to keep the regular and permanent workforce necessitates careful studies and co-ordinations between the various directorates. Special attention is paid to the directorate of cadre and education, production, quality assurance, technique, procurement and sales, economy.

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